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BLISTER RUST CONTROL WORK

IN THE

EASTERN STATES

1940

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REPORT OF

COOPERATIVE BLISTER RUST CONTROL ACTIVITIES AND ACCOMPLISHMENTS

IN THE NORTHEASTERN STATES*

CALENDAR YEAR 1940

ALSO

PERIOD 1918 - 1940, INCLUSIVE

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By

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Division of Plant Disease Control
Bureau of Entomology and Plant Quarantine
U. S. Department of Agriculture

*New England, New York, Pennsylvania and New Jersey.

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COOPERATIVE BLISTER RUST CONTROL ACTIVITIES AND ACCOMPLISHMENTS IN THE NORTHEASTERN STATES

This report is a detailed summary and analysis of blister rust control activities and accomplishments in the Northeastern States for all years and especially gives the pertinent facts regarding the 1940 work. The information is segregated by programs, each being complete in itself and divided into the various projects - Ribes eradication, nursery sanitation, Ribes nigrum elimination, pine and control area mapping, and canker elimination. The report is based on the yearly statistical records submitted by the state leaders and general observations made by the Regional Leader. The results accomplished are due in a large degree to the loyalty, enthusiasm, initiative, and good judgment of the regular supervisory force wich performed its work in an efficient and effective manner. No attempt has been made to discuss future plans, since they will be presented in separate statements as needed. Separate reports will also be submitted for any field studies made during 1940.

Due to the fact that some of the district leaders have not completed their permanent control records, revised control area and status of control data for the Northeastern States are not available at this time. Consequently, such information has been omitted from the 1940 annual report, except in the special omnibus tables, which contain control area and status of control data based on information submitted by the state and district leaders in December 1938, the status of control data being adjusted each subsequent year.

White Pine Conditions

Based on the cartographical survey of 1925, the white pine crop in the Northeastern States comprises 7,667,127 acres and has a normal commercial value of $315,726,491 (Table 109). This acreage is classified as follows: Pure pine (80 percent or over), 2,808,179 acres; mixed pine (21-79 percent pine in mixture), 2,921,434 acres; and pine stocking and restocking in other types, 1,937,514 acres. Of this total acreage, 71.3 percent is located in the States of Maine, New Hampshire and New York. White pine is the most important tree in the extensive territory where it occurs in pure stands, or where it constitutes a high percentage of the trees in mixed types (See Page 8). In such situations it covers a larger area, is used for more purposes, and brings a greater return than any other species. For several years, the lumber cut of white pine in Maine and New Hampshire has been about 65 percent of the entire lumber cut in those two states. In many sections, white pine is being produced on a sustained yield basis, notably in Plymouth and northern Worcester Counties in Massachusetts and in southern Cheshire County, New Hampshire. These conditions exist today in spite of about 300 years of logging. The management of white pine as a permanent crop both on farm woodlots and on wild lands is essential to maintain the prosperity of the region.

The rate of growth of white pine on good sites out-ranks all other hard or soft-woods. In many instances, white pine constitutes a bank reserve for rural residents, especially farmers. Without any expenditure for cultivation, this tree has been the means of reducing or eliminating mortgages, educating children

and often providing for old age independence. A high percentage of the wood-using industries in the Northeastern States use white pine in the manufacture of hundreds of commodities including boxes, toys, matches, pails and screen doors. It is also used for interior and exterior finish of homes. The use of knotty pine for interiors and pine slabbing for cabins is becoming more prevalent. The logging and manufacture of white pine provides employment for tens of thousands of persons. In spite of competition by substitute containers, the manufacture of wooden boxes continues at a fairly good volume, since many commodities require a more safe type of container than are offered by the wood substitutes.

The scenic, recreational and watershed protection value of white pine in the Northeastern States probably equals or exceeds its commercial worth. The region is becoming increasingly popular as a summer and winter playground, and its attractiveness in this respect is due in no small degree to the white pines which are green throughout the year. In the lake and lower mountain sections, white pine add greatly to attractiveness and popularity of the resort centers. The beauty of many scenic places is frequently due to the fascinating pine growth in some unusual situation.

White pine has been extensively planted for ornamental and reforestration purposes throughout the Northeastern States. During the period 1931 to 1940, inclusive, the state nurseries in this region distributed approximately 100 million white pines, nearly 70% of these trees originating in the New York state nurseries. Many plantings were also made from stock obtained from private nurseries.

Ribes Conditions

Wild Ribes occur more or less generally distributed throughout the white pine region of the Northeastern States, but vary locally as to site, species, size, and abundance. Nine indigenous species have been encountered in control work, four being gooseberries and five currants, exclusive of Ribes vulgare which is considered an escaped cultivated red currant. The number of Ribes varies from 100 or more per acre in some sites to few or none in others. The aggregate, however, represents many millions of such bushes, as evidenced by the eradication of 272,622,736 wild Ribes in the Northeastern States during the period 1918 to 1940, inclusive. It has been determined by Fivaz and others that shade is an important factor in eliminating and suppressing Ribes, that Ribes' seed remain dormant and viable in the duff for years, and that disturbance of the duff by logging, fire, animals, or mechanical means favors the germination of such dormant seeds. Therefore, Ribes are usually found most abundant in open situations, such as recently cut-over or burned areas, pastures, swamps, fence rows, etc. The cultivated Ribes problem is indicated by the 1,006,452 cultivated bushes that have been destroyed in applying control measures since 1918.

Pine Infection Conditions

Blister rust infection is general throughout the white pine range in New England and New York. Over extensive areas, from 1 to 20 percent or more of the pines are infected; and in many local pine tracts, from 50 to 100 percent of the trees are dead or dying. The amount of disease varies considerably in different localities and is directly influenced by such factors as the number of

original infection centers caused by the planting of imported diseased pine, the distribution and amount of native pine, association of pine and Ribes, abundance of Ribes, climatic conditions, and the application of control measures. In Essex and Warren Counties, New York, and in the upper Connecticut River Valley region, where Ribes are generally abundant, pine infection is also heaviest; 11 to 20 percent or more of the trees being diseased. In southern New England and in most of southern New York, less than one percent of the pines are infected, except in a few limited areas.

Blister rust has existed in Pennsylvania and New Jersey for several years, but was not reported on native pines in the former state until 1927, and in the latter during 1934. The relatively slow spread of the disease prior to that time may be attributed chiefly to the fewer plantations of imported diseased stock and to the localization of native pine areas. Studies, made in unprotected areas in Pennsylvania during December, 1934 and January-February, 1935, show that the amount of disease is increasing at an alarming rate. Ten plots, comprising 9¼ acres, were laid out in the counties of Clarion and Potter. These plots contained 3,984 white pines, of which 2,618, or 66 percent, were infected with 10,605 cankers. The intensification of the disease is indicated by the fact that 62 percent of the cankers were of 1930 or 1931 origin. Fifty percent of the infected trees had trunk cankers and over 14 percent of the diseased pines had already been killed.

The scouting work in New Jersey during 1934 revealed 17 scattered infections on native pines in the township of Montague in the northwestern part of the state. A pre-eradication survey in the township of West Milford in Passaic County also showed several spot pine infections, the heaviest being on a property where Ribes nigrum had existed up to a few years ago.

During 1934, plot studies were made to determine the amount of blister rust infection on white pine in unprotected areas. A total of 45 plots, comprising 31.2 acres, were established in the States of New Hampshire, New York, Vermont, Maine, Massachusetts and Pennsylvania. These plots contained 17,569 white pine, 49.9 percent of which were infected with 22,238 cankers. Over 37 percent of these infections originated during the years 1930 and 1931, which shows the danger of delaying protection work.

An additional study was made in a 9-3/4 acre plot in an unprotected area in the township of Minot, Maine. Over 49 percent of the 5,262 pines were found to be infected. In this study only the age of the oldest canker on each infected tree was recorded, consequently there is no information available on the total number of cankers.

Similar plot studies were also made during the fall of 1937, W.P.A. laborers being used to assist the district blister rust control leaders in obtaining the pine infection data. In the unprotected tracts, studies were made in 88 plots, totalling 85¼ acres, in 61 townships in Maine, New Hampshire, Vermont, New York and Pennsylvania. A total of 68,829 white pines were examined and 14,132, or 20.5% of the trees were found infected with 23,108 blister rust cankers. Over 54% of these cankers had originated after 1930.

General Summary of Blister Rust Control Accomplishments in the Northeastern States During the Period 1918 to 1940, Inclusive

Ribes Eradication

The present total control area in the Northeastern States comprises 13,687,831 acres based on status of control data submitted by the state and district leaders in December, 1938. Initial protection has been established on 79.1%, or 10,819,062 acres, by the eradication of 222,882,011 wild Ribes and 774,700 cultivated bushes. There still remains 2,868,769 acres in need of initial control work. Most of the unworked areas are located in New York, Maine, Vermont, New Hampshire and Pennsylvania. Since 1922, a total of 4,108,471 acres has been re-examined for Ribes. This reworking resulted in the destruction of an additional 49,290,995 wild Ribes and 78,953 cultivated bushes on 38.0% of the total area initially protected. The acreage protected initially or re-examined under the various Emergency programs since 1933 represents 39.3 percent of the total area worked in this region during the period 1918 to 1940, inclusive.

The Ribes eradication work conducted under the Emergency programs since 1933 resulted in increasing the area protected by 6,191,097 acres, or 209.6%, more than what would have been accomplished if only regular money had been available. This conclusion is based on the following analysis. During 1932, the last year prior to the advent of the Emergency programs and the decrease in the regular appropriation, $94,604.62 regular money was expended for salaries and expenses of the state and district leaders in this region, and a total of 544,620 acres were cleared of Ribes. Since 1932, regular funds for cooperation with the states in this region have averaged only $45,699.67 per year. During 1932-1940, if Emergency money had not been available, the regular allotment for cooperation with the states would probably not have exceeded $50,000 per year. This would have necessitated a reduction in the district leader personnel and a corresponding decrease in the amount of control work performed, since under the regular program the acreage protected depends chiefly upon the success of the district leaders in securing local cooperation. Assuming that the decrease in the acreage protected would be comparable to the 47.1% decrease in regular funds from $94,604.62 to $50,000 per year, an average of only 288,104 acres per year would have been protected during the period 1933-1940, inclusive. Actually, an average of 891,972 acres per year was cleared of Ribes in this region during the past eight years. The Emergency programs have made possible the systematic working of large areas, rather than individual units. They have also permitted the application of control measures on lands where such work was urgent, rather than basing the selection on local cooperation. It has been possible to work many remote areas, also tracts containing an abundance of Ribes, where the cost of control had prevented prior application of protection measures. This control work has served to eliminate many sources of infection that otherwise would have persisted. Thousands of men have received training in Ribes eradication work, and many of these persons will be available for similar work in the future. The training should also enable many of these men to maintain control of blister rust on their own properties. The Emergency programs have not only resulted in the protection of hundreds of thousands of acres of valuable pine; but of even greater importance, they have helped to rehabilitate thousands of men who were on the verge of despair prior to the inauguration of such work.

Ribes Nigrum Elimination

Black currant elimination has been conducted as a special project in four states - New York, Rhode Island, Connecticut and Massachusetts; a total of 103,376 Ribes nigrum and 44,683 other cultivated bushes being destroyed (Table 99). In Rhode Island and Connecticut, the work has been completed; and in Massachusetts, it has been finished on the mainland. Out of a total of 996 townships in New York, the project has been completed in 236 and partially finished in 39 others - (Table 101). In conjunction with the regular control activities in the other Northeastern States, such bushes have been eradicated in the worked portions of the control areas. Few Ribes nigrum have been found in these latter states. In Rhode Island and New York practically all of the work was performed under the Regular program; but in Massachusetts and Connecticut, 24.4% and 89.5%, respectively, of the total man days on this project in each of these states represented labor provided by Emergency programs.

During the period 1937 to 1940, inclusive, a check was made on the original black currant elimination work in 60 townships in Massachusetts for the purpose of locating any bushes that may have been missed or replanted since the initial survey. All of Bristol and Norfolk Counties and 12 townships in Plymouth County were covered in this special project. A total of 127,678 properties were inspected and 366 patches of Ribes nigrum containing 1,579 bushes were located. A total of 516 other cultivated Ribes were also located in the control areas in these 60 townships. On the whole, the results of this follow-up check show that thorough inspections were made in the initial work, but it is apparent that some locations were missed, some sprouting had taken place, and there has been occasional replanting. Periodic reinspections will be essential if Ribes nigrum are to be kept entirely out of cultivation.

Nursery Sanitation

At the close of the 1940 Ribes eradication season, 41 nurseries were maintaining Ribes-free sanitation zones; 22 of these nurseries being privately owned, 17 belonging to the respective states, and 2 operated by the Soil Conservation Service - (Table 98). Thirty-seven other nurseries had established sanitation zones, but abandoned them prior to 1940. In the 16 nurseries worked during 1940, there existed at that time a total of 26,233,000 white pines.

Pine and Control Area Mapping

Pine and control area mapping has been performed in all the Northeastern States except New Jersey. Such activities were very limited prior to the advent of the Emergency programs for the reasons indicated under heading "Pine and Control Area Mapping" on page 32 . Under the various control programs during 1933 to 1940, inclusive, 11,371,720 acres were mapped and 13,647,169 additional acres examined but not mapped due to lack of sufficient pine to justify the cost of control - (Table 104). A total of 15,873 miles of control area boundary lines were also painted in the field. Nearly 97% of the acreage mapped in the Northeastern States during the period 1933-1940, inclusive, resulted from work performed under the various Emergency programs. Very little of this pre-eradication survey work could have been conducted if Emergency funds and labor had not

been available. The pine and control area maps are not only of assistance to the crew foremen on Ribes eradication work, but will be helpful in planning and executing future re-examinations of control areas. The detailed mapping has been completed in 1177 townships within the permanent pine production area and partly finished in 517 others. Spot mapping has also been completed in 1301 additional townships and partly done in 207 other townships. There still remains 1214 townships where no mapping has been done. As indicated in Table 105, detailed mapping has also been completed in 284 of the 1657 townships outside the permanent pine production area and partly completed in 5 others. A small amount of spot mapping has also been performed in 25 additional townships. It is questionable whether the remaining townships outside the permanent pine production area, especially in Maine and Pennsylvania, should be mapped due to the inaccessibility of most of the areas in Maine, and the scattered distribution and small acreage of the white pine units in Pennsylvania.

Canker Elimination

Canker elimination work was performed during the period 1932 to 1940 principally on publicly-owned areas in five states - Maine, Vermont, Massachusetts, New York and Pennsylvania - (Table 102). The project in Maine was conducted chiefly at Acadia National Park, where the cankers were removed from infected scenic pines. Technical supervision was, however, given to a few small private jobs in Maine where the owners paid the entire cost of the labor. The projects in the four other states were principally in connection with the elimination of cankers from diseased pines in publicly-owned plantations where the percentage of diseased trees exceeded 10%. The canker elimination projects resulted in the examination of 7,534,387 white pines, 264,815 of which were cut down due to fatal stem cankers. An additional 375,241 pines were treated for infection by removing 907,045 branch cankers and 8,377 stem lesions. These accomplishments are due almost entirely to work performed under the Emergency programs since only 2.8 percent of the total man-days on this project are chargeable to the Regular program.

Field Studies

Many field studies have been made to determine the distribution and amount of infection on white pines, blister rust damage to such trees, spread of the disease from definite sources of Ribes, efficiency of Ribes eradication, improvements in control methods, and effectiveness of control. As a result of these studies, the following facts have been ascertained. Commercial protection of local white pine areas from blister rust by the eradication of Ribes within 900 feet is practical and effective. The width of the protection zone can be varied from 600 to 900 feet depending upon topography, species and abundance of Ribes, and density and height of the forest growth surrounding the pine area. Ribes nigrum are instrumental in the long distance spread and local establishment of the rust and should not be grown in pine regions. Blister rust is an insidious disease, the amount of infection and damage frequently being so inapparent to the layman as to cause a false sense of security. Blister rust on white pines is generally distributed throughout the region, the amount of infection depending upon the abundance, species and distribution of Ribes. Generally speaking, little new infection exists in protected areas, except those

where the re-eradication work has been delayed too long. On the other hand, new infections are occurring in unprotected areas, being especially abundant in sections where Ribes are numerous, as in Pennsylvania. The disease kills white pines of all ages, and damage to merchantable-size trees is becoming increasingly conspicuous in northern New England and northeastern New York. Removal of branch and stem cankers from ornamental white pines is practicable, provided the trunks are not more than 2/3 girdled by the fungus. Such action is not, however, advisable in wooded areas, except in connection with regular pruning operations in young stands or plantations and then it should be limited to removal of infected branches from trees which do not have stem cankers.

Relation of Cost of Control to Value of Pine

The cartographical survey of 1925 showed that there were 7,667,127 acres of white pine growth in the Northeastern States with a commercial value estimated at $315,726,491. The cost of all control activities for all phases of the work by all cooperating agencies during the period 1918 to 1940, inclusive, amounted to $12,580,796.68. State expenditures represent 18.9 percent of the total, those of local cooperators 9.1 percent, and the federal government 16.6 percent from regular funds and 55.4 percent from Emergency allotments. The total expenditure, however, represents only 4.0 percent of the commercial pine value. In the Northeastern States, the recreational, scenic and watershed protection value of the pine probably equals or exceeds the commercial value. Indirectly the educational and service work of the field personnel has been of great assistance in stimulating a general public interest in forestry, especially in the field of protection.

DISTRIBUTION AND ABUNDANCE OF WHITE PINE

NEW ENGLAND AND NEW YORK.

(Based on cartographical survey of 1925)

Legend

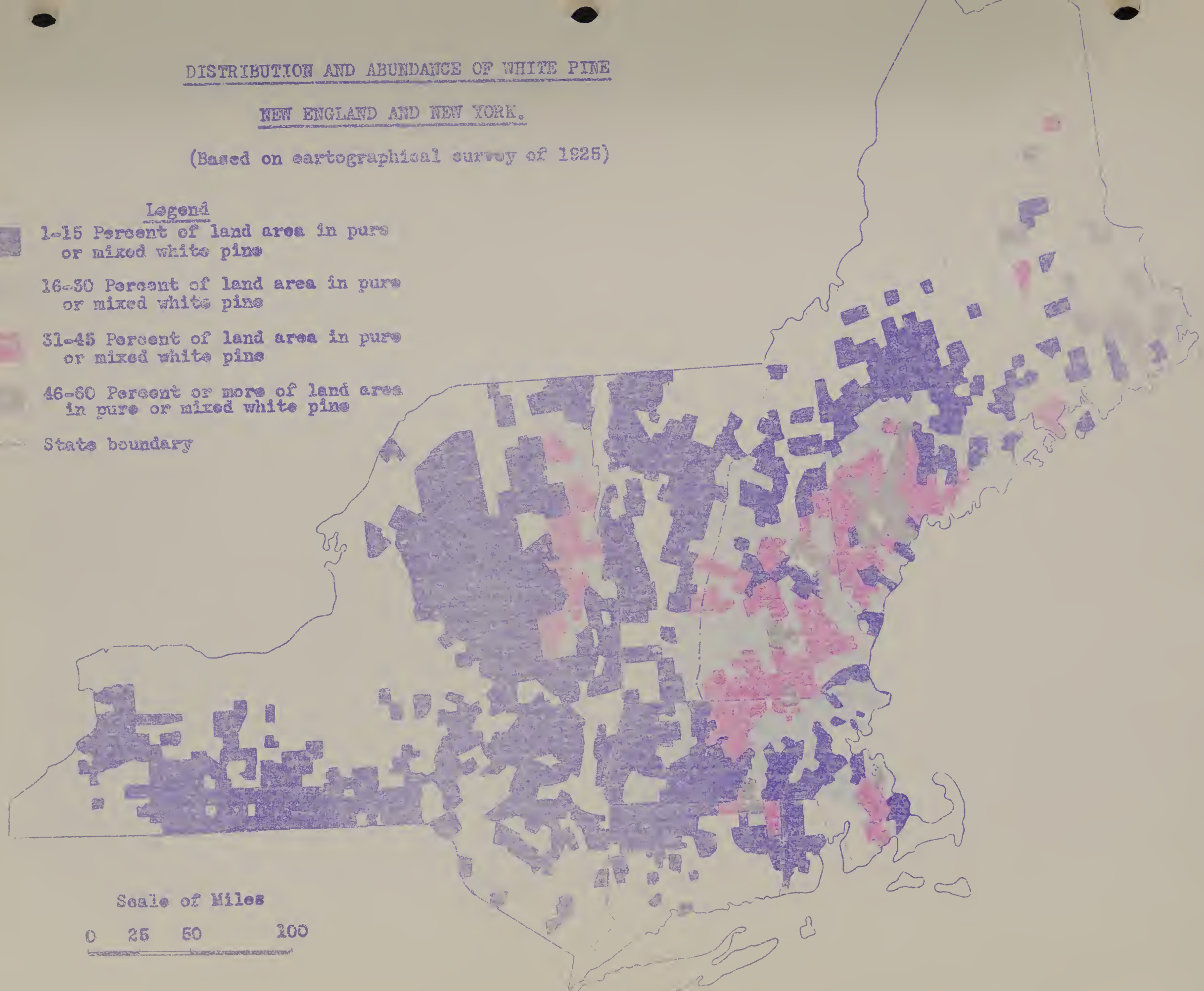
1-15 Percent of land area in pure or mixed white pine

16-30 Percent of land area in pure or mixed white pine

31-45 Percent of land area in pure or mixed white pine

46-60 Percent or more of land area in pure or mixed white pine

State boundary



BLISTER RUST CONTROL ACTIVITIES UNDER REGULAR COOPERATIVE CONTROL PROGRAM IN NORTHEASTERN STATES

Policy

During the period 1918 to 1921, inclusive, the Federal Government cooperated with the states in experimental control work on a dollar for dollar basis. This work was conducted in each state under a cooperative agreement between the United States Department of Agriculture and the authorized state regulatory agency, the latter usually being the state forestry department. The control work was directed by the state officials under the general supervision of the Government, which paid a part of the Ribes eradication costs.

In 1922, a new program to secure the general application of control measures was inaugurated by the United States Department of Agriculture in cooperation with the state regulatory agencies. This program has been in operation since that time, but was altered during 1933 to 1940 to include the blister rust control work performed under the various Federal Emergency programs. The object of the regular cooperative work since 1922 has been to accomplish the control of the disease by providing pine owners with the expert advice, leadership, and supervision needed to secure prompt and effective local eradication of Ribes in the pine-growing regions. Prior to the advent of the Government Emergency work in 1933, all Federal cooperative expenditures were offset by state expenditures of at least equal amount.

Since 1936, responsibilities of the cooperating agencies have been as follows:

State Regulatory Agency (Usually the state forestry department)

(1) To furnish the services of a responsible state employee whose duties shall include nominal charge of the cooperative program and direction of the cooperative personnel in all matters concerned with carrying out any State laws and State policies with respect to blister rust control. (2) To cooperate with counties, townships, associations, and individuals in the local eradication of Ribes. (3) To provide such immediate supervision and checking of local eradication of Ribes as will maintain a standard of Ribes eradication satisfactory to the Bureau of Entomology and Plant Quarantine, and in so far as practicable to utilize the facilities of its organization for furthering the cooperative work. (4) To undertake directly or in cooperation with such State agencies as may have jurisdiction, such destruction of white pines and Ribes and such enforcement of State laws as may be necessary for the effective prosecution of blister rust control work, including regulation of the intrastate movement of blister rust host plants. (5) To furnish the necessary office space and facilities for the direction of the cooperative work at State headquarters.

The Bureau of Entomology and Plant Quarantine

(1) To furnish the services of a chief field leader who shall devote his entire time to the coordination and the prosecution of the control activities of the cooperating agencies in accordance with working plans mutually agreed upon by the responsible representatives of the agencies concerned. (2) To furnish the services of such assistant field leaders as may be agreed upon from time to time in accordance with needs of the work and the availability of funds. (3) To provide these and any other cooperative employees with subject matter and technical information essential to the proper conduct of their work in controlling and preventing the spread of blister rust. (4) To enforce Federal regulations on the interstate movement of blister rust host plants.

In New England and New York, this program has been in successful operation since its adoption in 1922; but in Pennsylvania and New Jersey, the control activities were not organized on a similar basis until 1929. There were several reasons for restricting control activities outside New England and New York. The principal ones were the few introductions of diseased nursery stock from Europe, the relatively slow establishment and spread of the rust, the scattered distribution of the white pine, and passive public interest in forestry and lack of adequate state appropriations for control work. Hence, up to 1929, cooperative activities in the East outside New England and New York were limited to a small amount of scouting, nursery sanitation, eradication of new centers of infection, and to investigational and informational work. The natural spread of the disease during the past few years has greatly increased the infested area outside New England and New York. As a result, definite control programs have been adopted in Pennsylvania, New Jersey and other eastern states.

Since 1933, the regular cooperative control work has been necessarily curtailed due to the Emergency programs. The blister rust leaders have given complete supervision to all control activities conducted in their respective districts under the P.W.A., W.P.A., and regular cooperative programs. In addition, they have provided technical supervision for the control work performed under the C.C.C. and other Emergency programs. The number of district leaders in the cooperating states has not been uniform or constant. Generally speaking there has been a gradual curtailment. The regular blister rust control supervisory force employed in the Northeastern States during 1940 is shown in the following chart. In New Hampshire, the five district leaders spent only 3/4 of their time on control work. The cost of these part-time men while on other special duties was paid from state money other than that allotted for the blister rust program.

The Agricultural Service
Division of Plant Disease Control
Bureau of Entomology and Plant Quarantine
U. S. Department of Agriculture

REGIONAL OFFICE - CAMBRIDGE, MASS.
Regional Leader E.C. Filler – P5
Ass't. Regional Leader, K.K. Stimson-P3

Executive Ass't, D.B. Cheyne-CAF6
Sr. Clerk-Stenog. C.A. Purcell-CAF4

CONTROL SPECIALISTS
Field Studies: P.L. Rusden- P2
Inspection: M.G. Calderara-SP6

MAINE
State Leader
W.O. Frost-P3

NEW YORK
State Leader
H.L. McIntyre-Collab.

NEW HAMPSHIRE
State Leader (1)
L.E. Newman — P3

MASSACHUSETTS
State Leader
C.C. Perry — P3

ELFAST
District Leader
Adbury-SP8

AUBURN
District Leader
G.H. Kimball – SP8

WARRENSBURG
District Leader
N.H. Harpp-SP8

SARATOGA SPRINGS
District Leader
R.E. Barber-SP8

KEENE
District Leader
F.J. Baker-SP8

CONCORD
District Leader
L.J. King – SP8

SPRINGFIELD
District Leader
R.E. Wheeler – P2

WAKEFIELD
District Leader
E.M. Brockway-P2

DEDGTON
District Leader
arris – SP8

WATERVILLE
District Leader
J.M. White – SP8

HYDE PARK
District Leader
H.G. Streit – P2

GLOVERSVILLE
District Leader
J.W. Clariton-P2

LEBANON
District Leader
G.F. Richardson-P2

NORTH CONWAY
District Leader
S.H. Boomer – P2

SHELBURNE FALLS
District Leader
G.S. Doore – SP8

WORCESTER
District Leader
Wm. Clave-SP8

BOONVILLE
District Leader *
T.P. Woolschlager-P2

MALONE
District Leader
H.W. Holcomb-SP8

LITTLETON
District Leader
T.L. Kane – SP8

SCHOHARIE
District Leader *
H.J. McCasland- P2

ITHACA
District Leader
C.B. Kresge — P2

VERMONT
State Leader
S.D. Conner – P2

CONNECTICUT
State Leader
J.E. Riley — P3

RHODE ISLAND
State Leader (Acting)
A.C. White - SP8

PENNSYLVANIA
State Leader
R.P. Fatzinger-P3

UTLAND
rict Leader
holland-SP8

ST. JOHNSBURY
District Leader *
E.H. Palmer- SP8

Temporary Personnel
Assigned as
Needed

Temporary Personnel
Assigned as
Needed

TOWANDA
District Leader *
T.C. Williams – P2

CLEARFIELD
District Leader
P.H. Simmonds-P2

BELLOWS FALLS
District Leader
F.H. Rose-SP8

BROOKVILLE
District Leader
M.J. DeBerti-P2

State Land Projects
State Agents

* Paid from W.P.A. project funds.

Informational and Service Activities

The success of the control program in the Northeastern States since 1918 has been primarily due to the effective informational and service activities of the state and district leaders in securing the cooperation of individuals and towns in the application of control measures.

During the period 1922-1932, inclusive, local cooperators paid the major portion of the Ribes eradication costs, and a large volume of informational and service work by our leaders was essential to obtain such cooperation. Due to economic conditions and the availability of relief funds or labor for control work since 1933, local cooperation has not been solicited to any extent in several of the states; consequently, there was a general decrease in the informational and service activities, especially during the period 1934 to 1938, inclusive. This decrease was also due to fewer district leaders being employed and the fact that the control program had reached a stage where the chief objective was to retain public interest in maintaining control and this could be accomplished with less informational and service work than was required during the early years of the control program. However, in some of the states, too drastic decreases occurred in these phases of the work after 1933 and action has been taken to correct this condition as evidenced by the increased volume of informational and service work during the past two years. Such activities are still an important part of the control program and must be continued in sufficient volume to maintain public interest and participation in the control work.

Summaries of the informational and service work performed by the district blister rust control leaders during 1940 are given in Tables 1 and 2, while the accomplishments for the period 1923-1940, inclusive, are indicated in Tables 3 and 4. In addition to the work performed by the district leaders, some activities of this nature have been conducted by the state leaders and temporary state assistants. Since these latter employees did not submit monthly summary reports of their own activities to the Cambridge office, the results of their efforts in this respect are not included in this report.

During the spring and summer of 1940, several of the state and district leaders, as well as representatives of the Cambridge office, assisted on various phases of the work in connection with the new blister rust sound film being prepared by the Department. There has been an urgent need for a new film of this type for several years and it should be of great assistance to our leaders in their informational activities.

Table 1 - Informational Activities Performed in Each of The Northeastern States During 1940 by The Permanent District Leaders

State	Meetings Addressed		Displays Placed	Items Published
	No.	Attendance		
Maine	1	12	2	2
N. H.	130	7,699	40	179
Vt.	21	722	26	24
Mass.	9	308	3	3
R. I.	13	450	2	7
N. Y.	102	14,947	64	104
Penna.	1	125	7	1
Totals	277	24,263	144	320

Table 2 - Service Activities Performed in Each of the Northeastern States During 1940 by the Permanent District Leaders

State	Initial Interviews	Follow-Up Calls	Personal Instruction in Field (No. Individuals)
Maine	569	290	374
N. H.	1,174	1,864	360
Vt.	368	233	173
Mass.	268	178	55
R. I.	60	86	26
N. Y.	1,003	602	965
Penna.	200	58	254
Totals	3,642	3,311	2,207

Table 3 - Summary, by States, of Informational and Service Activities Performed by Permanent and Temporary District Blister Rust Control Leaders in Northeastern States During Period 1923-1940, Inclusive.

Informational

State	Meetings Addressed (1) No.	Meetings Addressed (1) Attendance	Displays Placed (2)	Publications Distributed (3)	Mimeographed Articles Distributed (3)	Items Published	Posters and Signs Placed (3)
Maine	1,304	30,773	1,024	65,652	4,846	579	18,802
N. H.	3,051	169,292	1,978	183,853	64,485	4,018	19,837
Vt.	856	25,789	732	30,653	192	568	7,561
Mass.	940	33,416	831	150,907	2,445	2,110	3,116
R. I.	248	19,411	128	35,331	2,250	404	2,104
Conn.	78	2,633	141	12,155	91	641	569
N. Y.	1,624	119,911	674	133,570	3,595	2,498	9,049
Penna.	2	165	28	-	-	5	-
Totals	8,103	401,390	5,536	612,121	77,884	10,825	61,038

(1) Includes "Field Demonstration Meetings".
(2) Includes "Roadside Domonstrations".
(3) No record kept of this item after April, 1934.

In addition, during the period July 1 to December 31, 1922, the following general informational work was performed; 586 meetings addressed with an attendance of 30,835 persons, 374 displays placed, 35,067 publications distributed, 313 items published, and 2,500 posters and signs placed.

Service

State	Initial Interviews	Follow-Up Calls	Persons Instructed in Field
Maine	29,959	10,416	20,987
N. H.	33,423	31,439	19,652
Vt.	12,787	8,325	9,745
Mass.	33,401	12,552	12,270
R. I.	3,523	2,986	658
Conn.	4,076	3,033	1,533
N. Y.	28,324	20,612	19,724
Penna.	849	179	471
Totals	146,342	89,542	85,040

During the period July 1 to December 31, 1922, an additional 6,227 interviews and 1,924 follow-up calls were made, and 1,540 individuals received personal instructions in the field.

Data for Pennsylvania covers July 1, 1935 to December 31, 1940 when three district leaders have been employed.

Table 4 -- Summary of Yearly Informational and Service Activities Performed by Permanent and Temporary Blister Rust Control Leaders in Northeastern States During Period 1923-1940, Inclusive.

Informational

Year	Meetings Addressed		Displays Placed	Publications Distributed *	Mimeographed Articles Distributed *	Items Published	Posters and Signs Placed *
	No.	Attendance					
1923	1,556	38,091	582	51,308	-	1,203	6,499
1924	1,499	51,121	647	55,696	-	1,269	9,553
1925	1,045	48,434	680	68,818	-	1,294	8,894
1926	700	38,100	624	76,697	-	1,202	8,056
1927	615	37,336	647	88,840	-	1,219	7,041
1928	522	23,987	492	62,708	14,953	1,109	7,268
1929	274	25,627	358	52,332	23,155	769	4,388
1930	188	9,297	342	48,124	20,715	518	3,445
1931	125	8,692	190	36,068	9,165	372	2,922
1932	271	18,678	121	39,562	6,416	340	1,758
1933	276	12,866	81	27,691	3,435	333	1,129
1934	106	10,361	104	4,277	45	182	85
1935	156	14,692	98	-	-	155	-
1936	96	7,048	84	-	-	112	-
1937	89	7,286	63	-	-	74	-
1938	117	11,905	113	-	-	81	-
1939	191	13,606	166	-	-	271	-
1940	277	24,263	144	-	-	320	-
Totals	8,103	401,390	5,536	612,121	77,884	10,823	61,038

* No record kept of this item after April, 1934.

In addition, during the period July 1 to December 31, 1922, the following general information work was performed: 586 meetings addressed with an attendance of 30,895 persons, 374 displays placed, 35,067 publications distributed, 513 items published, and 2,500 posters and signs placed.

Service

Year	Initial Interviews	Follow-Up Calls	Persons Instructed in Field
1923	14,724	5,555	4,274
1924	15,984	6,804	6,198
1925	13,819	7,380	11,169
1926	12,153	7,309	11,559
1927	13,120	8,228	13,102
1928	15,644	8,625	8,952
1929	9,013	6,503	6,741
1930	7,905	5,568	3,166
1931	5,789	5,440	2,070
1932	6,996	4,968	1,884
1933	4,788	3,744	1,818
1934	4,379	2,667	2,123
1935	4,483	3,405	2,253
1936	3,330	2,407	2,266
1937	3,292	2,168	1,864
1938	3,581	2,592	1,671
1939	3,700	2,868	1,723
1940	3,642	3,311	2,207
Totals	146,342	89,542	85,040

During the period July 1 to December 31, 1922, an additional 6,227 initial interviews and 1,924 follow-up calls were made, and 1,540 individuals received personal

Cooperation

The informational and service activities have resulted in excellent public participation in blister rust control as evidenced by local cooperators making available $1,157,344.13 for such work up to and including 1940. However, only $1,138,297.71 of this amount was actually expended, the balance reverting to the contributors. All of the local funds were used on the regular control program except $74,708.41 which was spent in connection with Federal Emergency activities. During the period 1918 to 1940, inclusive, 42,565 individual cooperators expended $491,316.97 and expenditures of $611,732.57 and $35,248.17, respectively, were made from 2,339 town allotments and 48 county subscriptions. The individual cooperators actually furnished labor, or its equivalent in money, to eradicate the Ribes on their properties. Thousands of additional owners permitted the destruction of 942,465 cultivated Ribes without compensation. In addition to the above direct cooperation, thousands of individuals gave general support or personal aid to the control program. State expenditures, other than local cooperation, amounted to $2,383,067.04 of which $285,191.86 was spent on Federal Emergency programs.

Public interest and participation in blister rust control has been continued in the Northeastern States in spite of the depression and Federal Emergency programs. In fact, town cooperation reached high peaks in 1930 and 1931. Naturally during recent years there has been a decided decrease in the amount of local cooperation. This may be attributed chiefly to the fact that because of financial conditions and availability of Emergency funds little effort was made to secure such assistance, except to transport WPA crews. Tentative reports show that at the annual town meetings during March 1941, 32 towns in Maine and 35 towns in New Hampshire appropriated $6180.00 and $9,225.00, respectively, for blister rust control. The total for Maine includes $1,080.00 unexpended balance from eight 1940 appropriations which were made available for work during 1941. In 1932, during the worst year of the depression, individuals actually expended more money on Ribes eradication than during the preceding year. Expenditures by 5,512 individual owners during the past eight years have amounted to $36,878.12 even though no special efforts were made to secure such cooperation. Only three of the Northeastern States decreased state appropriations for control work during recent years. In New York, state funds were reduced from $60,000 to $51,500 in 1935, and substantial reductions occurred in New Hampshire and Massachusetts.

Individual cooperation in wild Ribes eradication has been solicited in all the Northeastern States, except New Jersey. However, such efforts have been restricted in New Hampshire where the work is performed chiefly in cooperation with towns, in Maine since 1930 for a similar reason, and in Rhode Island where, except during 1920, state funds have been used to pay the entire cost of the limited amount of regular control work.

Town cooperation in connection with the Regular control program has been obtained chiefly in New Hampshire, Maine, and Connecticut. However, some town funds have also been provided in Vermont, Massachusetts, and New York. In New Hampshire, 1382 town appropriations, excluding those of 1941, have made available $425,125.00 for control work. This amount represents 74 percent of the total town money raised in New England since 1918. Many of the New Hampshire towns have consistently made yearly appropriations until their entire pine areas have been protected. In fact, initial control work has been completed in 170

New Hampshire towns. The town money in New Hampshire and Connecticut is turned over to the respective states and expended with additional state funds to clear definite town blocks of Ribes, irrespective of property lines.

In Maine, town cooperation has been obtained since 1921; 738 town appropriations making available $134,325.96 for regular control work excluding 1941. Up to 1931, this town money, except for a few thousand dollars, was used to employ town foremen who aided the individual owners in eradicating Ribes concentrations on their properties. A revised state policy was inaugurated in Maine in 1931 whereby the town funds were used to employ crews, as in New Hampshire, and the control areas were systematically worked irrespective of property lines, the state paying one-third of the costs of eradicating the Ribes. The 14 town appropriations in Vermont, totaling $1,422.75, have been used chiefly to pay the excess labor cost of foremen working with individual owners; but in one instance, a part of the money was spent in eradicating the Ribes on a town forest. Town money was secured in Massachusetts only during 1920 and 1921, when four appropriations, totaling $1,700 were made for control work in Berkshire County. The town contributions, other than appropriations, in the Northeastern States during 1935-1940 totaled $53,858.53. Practically all of this amount was spent on the WPA Program chiefly for transportation.

Table 5 - Local Cooperation in Blister rust Control Work in Northeastern States

1940

State	Individual Cooperation				Town Cooperation					County Cooperation	
	No. Cooperators			Amount Spent By Individual Cooperators	No. Town		Amount Town Money			No. County Allotment	Amount County Funds Expended
	Cult. Ribes Erad. Only	Wild & Cult. Ribes Erad.	Canker Elimination		Appropriations	Contributions	Appropriated	Contributed	Total Expended		
Maine	-	-	3	$128.20	35	8	6,525.00	1,249.80	6,091.44	-	-
N. H.	-	-	-	-	40	-	10,330.00	-	9,819.91	-	-
Vt.	-	-	-	-	-	8	-	2,198.52	2,198.52	-	-
Mass.	52	7	-	2,138.17	-	4	-	1,017.84	1,017.84	-	-
Conn.	-	-	-	-	-	5	-	5,029.41	5,029.41	-	-
N. Y.	-	20	-	451.40	-	-	-	-		3	8,110.8
Pa.	-	-	-	-	-	-	-	-	-	-	-
Totals	52	27	3	2,717.77	75	25	16,855.00	9,495.57	24,157.12	3	8,110.81

1922 - 1940

Maine	621	10,449	22	83,806.99	738	20	134,325.96	2,194.19	123,902.42	-	-
N. H.	-	547	-	39,706.95	1,220	20	399,090.00	1,607.94	395,708.38	6	1,724.08
Vt.	172	2,089	8	68,963.19	14	50	1,422.75	20,149.41	21,347.32	-	-
Mass.	10,695	10,913	-	95,067.42	-	34	-	17,104.08	17,104.08	-	-
R. I.	-	2	-	31.36	-	-	-	-	-	-	-
Conn.	195	296	-	8,855.57	25	51	14,346.75	12,712.91	26,824.80	-	-
N. Y.	-	5,889	1	160,474.34	-	1	-	90.00	90.00	42	33,524.0
Pa.	12	289	-	2,189.23	-	-	-	-	-	-	-
Totals	11,695	30,474	31	459,075.05	1,997	176	549,185.46	53,858.53	584,977.00	48	35,248.17

1918 - 1940

Maine	621	10,479	22	84,970.06	738	20	134,325.96	2,194.19	123,902.42	-	-
N. H.	-	689	-	47,804.51	1,382	20	425,125.00	1,607.94	420,761.73	6	1,724.08
Vt.	172	2,150	8	72,984.30	14	50	1,422.75	20,149.41	21,347.32	-	-
Mass	10,695	10,994	-	101,051.52	4	34	1,700.00	17,104.08	18,803.30	-	-
R. I.	-	8	-	581.36	-	-	-	-	-	-	-
Conn.	195	298	-	9,235.57	25	51	14,346.75	12,712.91	26,824.80	-	-
N. Y.	-	5,930	1	172,500.42	-	1	-	90.00	90.00	42	33,524.0
Pa.	12	289	-	2,189.23	-	-	-	-	-	-	-
Totals	11,695	30,837	31	491,316.97	2,163	176	576,920.46	53,858.53	611,732.57	48	35,248.17

Table 6 - Local Cooperation in Blister Rust Control Work in Northeastern States 1918-1940, Inclusive

Year	Individual Cooperation				Town Cooperation					County Cooperation	
	No. Cooperators			Amount Spent By Individual Cooperators	No. Town		Amount Town Money			No. County Allotments	Amount County Funds Expended
	Cult. Ribes Erad. Only	Wild & Cult. Ribes Erad.	Canker Elimination		Appropriations	Contributions	Appropriated	Contributed	Total Expended		
1918	-	19	-	4,188.63	43	-	7,200.00	-	5,029.11	-	-
1919	-	50	-	6,645.74	38	-	6,310.00	-	7,907.31	-	-
1920	-	152	-	8,498.78	51	-	8,675.00	-	7,992.09	-	-
1921	-	142	-	12,908.77	34	-	5,550.00	-	5,827.06	-	-
1922	-	971	-	28,035.13	58	-	20,598.29	-	18,448.62	-	-
1923	664	1,968	-	40,969.47	121	-	39,530.00	-	40,150.59	-	-
1924	1,714	3,050	-	44,622.07	151	-	48,429.25	-	48,898.50	-	-
1925	958	3,069	-	39,720.06	132	-	40,975.00	-	40,351.31	-	-
1926	741	3,283	-	44,254.88	123	-	40,425.00	-	41,223.95	-	-
1927	834	3,537	-	49,040.81	125	-	38,127.00	-	38,299.74	-	-
1928	991	3,390	-	54,667.68	143	-	41,117.00	-	39,038.73	-	-
1929	1,019	3,364	-	49,785.39	156	-	41,385.23	-	41,323.28	4	833.90
1930	971	2,419	-	32,999.65	186	-	48,143.50	-	46,880.12	3	1,112.10
1931	758	1,172	-	18,592.61	175	-	48,399.00	-	47,455.36	8	2,699.92
1932	313	1,488	14	19,509.18	81	-	19,217.09	-	19,575.96	6	1,252.88
1933	463	854	1	8,944.07	55	-	11,615.10	-	11,414.04	4	694.49
1934	1,331	774	-	8,687.68	13	-	4,574.00	-	4,573.93	5	881.35
1935	411	491	-	3,258.31	66	25	16,095.00	4,243.92	20,198.37	1	425.80
1936	20	301	-	1,306.20	84	31	17,150.00	14,128.67	22,023.68	2	987.00
1937	195	73	6	5,168.08	95	23	21,150.00	6,725.57	28,092.60	3	849.75
1938	85	122	3	4,852.43	82	17	18,975.00	9,720.01	27,827.77	5	9,876.04
1939	175	121	4	1,943.58	76	55	16,425.00	9,544.79	25,043.53	4	7,524.34
1940	52	27	3	2,717.77	75	25	16,855.00	9,495.57	24,157.12	3	8,110.80
Totals	11,695	30,837	31	491,316.97	2,163	176	576,920.46	53,858.53	611,732.57	48	55,248.17

Results Accomplished in Blister Rust Control Under Regular Cooperative Program in the Northeastern States

Ribes Eradication

Experimental control work in New England and New York during the period 1918 to 1921, inclusive, resulted in 1,042,275 acres being cleared of 15,002,878 wild Ribes and 91,725 cultivated bushes at an average cost of 41 cents per acre. The cost per acre was reduced from 73 cents in 1918 to 24 cents in 1921. In the application of control measures under the Regular Cooperative Program since that time, an additional area of 8,519,180 acres in the Northeastern States was eradicated of 95,448,091 wild and 540,274 cultivated Ribes at a per acre cost of 23.4 cents. This acreage includes, however, 1,411,455 acres reworked since 1922 at a cost of 21.8 cents per acre. Therefore, under the Regular program up to 1940, inclusive, control of blister rust had been established on 8,139,998 acres (pine areas plus protection zones), and in connection with the maintenance of control, 17.3%, or 1,411,455 acres had been reworked. This combined work resulted in the destruction of 110,450,969 wild and 631,999 cultivated bushes.

The results during the period 1922-1932, inclusive, were dependent upon the amount of local cooperation secured by the district leaders and funds provided by the cooperating states. State scouts were used to determine the location and abundance of Ribes chiefly in those townships where local cooperation had been obtained. In sections where the bushes were few, they were destroyed by the state scouts; those portions containing a general distribution or abundance of Ribes were definitely indicated as requiring crew work. The cost of such crew work was paid by the local cooperators and the state, the latter usually furnishing foremen to direct the activities of the laborers provided by the local cooperators. The standard eradication crew used on the Regular program consisted of five laborers and a foreman. However, in the case of individual cooperation, the owner frequently was unable to provide a full-size crew; consequently, many jobs were worked with crews of smaller size. In those townships where local cooperation had not been solicited or obtained, only a limited amount of control work was performed prior to the advent of the Emergency programs.

The low cost per acre under the Regular program may be attributed to the following facts. The best qualified men available, other than owners' labor, could be selected for foremen and crew members and usually these men were experienced in control work. These workers spent eight hours per day in the field and were usually accustomed to woods work. A considerable portion of the control area was worked by experienced scouts rather than crews as was necessary under the Emergency programs. Also, many of the Ribes concentrations were not worked until the advent of the Emergency activities.

The results accomplished in Ribes eradication work under the Regular program in each of the Northeastern States are shown in Tables 7 to 9 . All states, except Vermont, Rhode Island, Connecticut, and New Jersey performed control work under the Regular program in 1940. As indicated in Table 7, a total of 1,235,524 wild Ribes and 917 cultivated bushes were destroyed on the 90,731 acres examined as a result of 10,545 man days of labor. The total cost of this work was $39,871.15, or 43.9 cents per acre. Of the total acreage worked, 58.9% was in New York, and 25.3% was in New Hampshire. The total acreage examined represents 12.9% of the total area worked in this Region during 1940.

No satisfactory comparison can be made between the results of the initial and re-eradication work (Table 7) as the same areas are not involved. However, it will be noted that based on totals for all states 43 percent fewer Ribes were found per acre in the re-eradication work. On the other hand, the man days and cost per acre were 19% and 80%, respectively, more for the maintenance project.

Prior to 1934, no record was kept of man-days for the Ribes eradication work under the Regular program. In this report, the man-days data for the period 1918-1923 were compiled for each state by dividing the total cost of the Ribes eradication work by an arbitrary daily wage rate of $3.20.

Table 7 - Summary of Ribes Eradication Work Performed Under Regular Cooperative Program in Northeastern States During 1940

State	Type of Erad.	Acreage		Ribes Pulled		Total Man Days	Total Cost	Per Acre		
		Total Worked	Pine Protected	Wild	Cult.			Cost	Ribes	Man Days
Maine	Initial	791	485	40,945	6	352	$1,122.71	$1.42	51.8	.44
	Re-Erad.	8,236	1,857	48,835	81	997	3,150.97	.383	5.9	.12
	Total	9,027	2,342	89,780	87	1,349	4,273.68	.473	9.9	.15
N. H.	Initial	3,799	2,300	127,153	8	662	2,261.06	.595	33.5	.17
	Re-Erad.	19,142	11,900	263,925	49	2,635	10,132.06	.529	13.8	.14
	Total	22,941	14,200	391,078	57	3,297	12,393.12	.540	17.0	.14
Mass.	All Init	1,849	362	23,603	-	408	2,063.37	1.12	12.8	.22
N. Y.	Initial	37,650	14,734	579,926	457	3,127	12,245.34	.325	15.4	.08
	Re-Erad.	15,799	6,638	83,131	329	1,478	5,756.67	.364	5.3	.09
	Total	53,449	21,372	663,056	786	4,605	18,002.01	.337	12.4	.09
Penna.	All Re.	3,465	797	66,007	7	886	3,138.97	.906	19.0	.26
Totals	Initial	44,089	17,881	771,626	451	4,549	17,692.48	.401	17.5	.10
	Re-Erad.	46,642	21,192	461,898	466	5,996	22,178.67	.476	9.9	.13
	Total	90,731	39,073	1,233,524	917	10,545	39,871.15	.439	13.6	.12

Basis of costs: Includes actual cost or value of owners' labor usually figured at 40 cents per hour, actual cost of other laborers, scouts and crew foremen while engaged in locating and pulling Ribes - cost of crew transportation - and miscellaneous expenses for trail paint picks, etc.

Recapitulation of Total Cost of 1940 Ribes Eradication Work Under Regular Cooperative Program

State	Type of Erad.	Individuals	Towns	Counties	State	Total
Maine	Initial	-	$748.47	-	$374.24	$1,122.71
	Re-Erad.	-	2,350.25	-	800.72	3,150.97
	Total	-	3,098.72	-	1,174.96	4,273.68
N. H.	Initial	-	1,793.10	-	467.96	2,261.06
	Re-Erad.	-	8,026.81	-	2,105.25	10,132.06
	Total	-	9,819.91	-	2,573.21	12,393.12
Mass.	All Init.	$2,063.37	-	-	-	2,063.37
N. Y.	Initial	393.90	-	6,503.15	5,348.29	12,245.34
	Re-Erad.	54.30	-	1,607.65	4,094.72	5,756.67
	Total	448.20	-	8,110.80	9,443.01	18,002.01
Penna.	All Re.	-	-	-	3,138.97	3,138.97
Totals	Initial	2,457.27	2,541.57	6,503.15	6,190.49	17,692.48
	Re-Erad.	54.30	10,377.06	1,607.65	10,139.66	22,178.67
	Total	2,511.57	12,918.63	8,110.80	16,330.15	39,871.15

Table 8 - Summary of Ribes Eradication Work Performed Under Regular Cooperative Program in Northeastern States During Period 1918-1940, Inclusive
(Excludes nursery sanitation and cultivated black currant elimination)

State	Type of Erad.	Total Acreage Worked	Ribes Pulled		Total Man Days	Total Cost	Per Acre		
			Wild	Cult.			Cost	Ribes	Man Days
Maine	Initial	1,756,594	20,406,876	118,859	77,293	$247,142.75	.141	11.6	.04
	Re-Erad.	100,805	1,271,813	2,136	10,380	32,651.06	.324	12.6	.10
	Total	1,857,399	21,678,689	120,995	87,673	279,793.81	.151	11.7	.05
N. H.	Initial	2,781,947	38,899,873	141,650	186,260	597,515.86	.215	14.0	.07
	Re-Erad	506,866	3,803,525	3,841	31,389	104,466.16	.206	7.5	.06
	Total	3,288,813	42,703,398	145,491	217,649	701,982.02	.213	13.0	.07
Vt.	Initial	193,158	2,170,445	10,298	26,471	84,774.15	.439	11.2	.14
	Re-Erad	33,629	184,784	845	3,524	11,378.07	.338	5.5	.10
	Total	226,787	2,355,229	11,143	29,995	96,152.22	.424	10.4	.13
Mass.	Initial	1,786,096	13,067,310	238,525	87,495	280,953.96	.157	7.3	.05
	Re-Erad	477,074	896,060	9,414	14,862	50,045.32	.105	1.9	.03
	Total	2,263,170	13,963,370	247,940	102,357	330,999.27	.146	6.2	.05
N. Y.	Initial	273,179	190,069	12,281	9,428	30,165.64	.110	0.7	.03
	Re-Erad	16,885	10,406	75	646	2,072.71	.123	0.6	.04
	Total	290,064	200,475	12,356	10,074	32,238.35	.111	0.7	.04
Penn.	Initial	230,930	1,611,203	18,576	16,760	53,634.65	.232	7.0	.07
	Re-Erad.	36,161	448,596	3,706	6,939	22,654.93	.627	12.4	.19
	Total	267,091	2,059,799	22,282	23,699	76,289.58	.286	7.7	.09
N. Y.	Initial	1,049,973	21,630,649	61,581	238,185	779,066.93	.742	20.6	.23
	Re-Erad	223,873	1,355,124	3,815	18,745	69,487.71	.310	6.1	.08
	Total	1,273,846	22,985,773	65,396	256,930	848,554.64	.666	18.0	.20
Minn.	Initial	68,121	3,859,908	6,364	11,472	37,124.70	.545	56.7	.17
	Re-Erad	16,162	644,328	32	4,488	15,085.90	.933	39.9	.28
	Total	84,283	4,504,236	6,396	15,960	52,210.60	.619	53.4	.19
Totals	Initial	8,139,998	101,836,333	608,135	655,364	2,110,378.63	.259	12.5	.08
	Re-Erad	1,411,455	8,614,636	23,864	90,973	307,841.86	.218	6.1	.06
	Total	9,551,453	110,450,969	631,999	744,337	2,418,220.49	.253	11.6	.08

Basis of costs: See Page 21.

Note: Acreage of initial eradication in Maine adjusted by deducting 1,017,911 acres which represents eliminated area that was included in acreage figures reported for years 1921-1930, inclusive, when the control work was performed on the owner-labor and scouting basis. These areas were non-pine land outside the control area.

Table 9 - Recapitulation of Total Cost of Ribes Eradication Work Under Regular Cooperative Program in Northeastern States During Period 1918-1940, Inclusive.

State	Type of Erad.	Individuals	Towns	Counties	State	B.P.I.	B.E. and P.C.	W.P.A.	Forest Service	Park Service	Total
Maine	Initial	$ 79,876.20	$90,381.84	-	$30,259.56	$38,283.15	-	$16.47	-	$8345.53	$247,142.75
	Re-Erad.	2,578.92	21,838.60	-	7,183.31	887.42	-	21.56	$141.25	-	32,651.06
	Total	82,455.12	112,220.44	-	37,422.87	39,170.57	-	38.03	141.25	8345.53	279,793.81
N. H.	Initial	41,288.87	345,670.51	-	151,624.23	59,460.63	-	-	1471.62	-	597,515.86
	Re-Erad.	6,343.36	74,654.84	-	22,972.76	-	-	-	495.20	-	104,466.16
	Total	47,632.23	418,325.35	-	174,596.99	59,460.63	-	-	1966.82	-	701,982.02
Vt.	Initial	62,582.60	841.26	-	15,293.82	6,056.47	-	-	-	-	84,774.15
	Re-Erad.	9,869.43	236.65	-	1,181.31	90.68	-	-	-	-	11,378.07
	Total	72,452.03	1,077.91	-	16,475.13	6,147.15	-	-	-	-	96,152.22
Mass.	Initial	73,204.77	1,699.22	-	185,924.90	22,125.06	-	-	-	-	280,953.95
	Re-Erad.	18,575.89	-	-	30,424.51	981.87	63.05	-	-	-	50,045.32
	Total	91,780.66	1,699.22	-	214,349.41	23,106.93	63.05	-	-	-	330,999.27
R. I.	Initial	581.36	-	-	19,392.54	10,191.74	-	-	-	-	30,165.64
	Re-Erad.	-	-	-	1,671.67	401.04	-	-	-	-	2,072.71
	Total	581.36	-	-	21,064.21	10,592.78	-	-	-	-	32,238.35
Conn.	Initial	5,790.52	8,019.90	-	31,898.29	7,925.94	-	-	-	-	53,634.65
	Re-Erad.	1,755.56	4,167.99	-	15,065.88	1,665.50	-	-	-	-	22,654.93
	Total	7,546.08	12,187.89	-	46,964.17	9,591.44	-	-	-	-	76,289.58
N. Y.	Initial	161,592.12	-	27,142.20	473,418.55	116,914.06	-	-	-	-	779,066.93
	Re-Erad.	10,276.68	90.00	6,045.89	53,075.14	-	-	-	-	-	69,467.71
	Total	171,868.80	90.00	33,188.09	526,493.69	116,914.06	-	-	-	-	848,534.64
Penna.	Initial	1,439.48	-	-	33,950.15	1,227.36	-	-	507.71	-	37,124.70
	Re-Erad.	18.80	-	-	14,719.55	75.49	-	-	272.06	-	15,085.90
	Total	1,458.28	-	-	48,669.70	1,302.85	-	-	779.77	-	52,210.60
Totals	Initial	426,355.92	444,612.73	27,142.20	939,742.04	262,184.41	-	16.47	1979.33	8345.53	2,110,378.63
	Re-Erad.	49,418.64	100,988.08	6,045.89	146,294.13	4,102.00	63.05	21.56	908.51	-	307,841.86
	Total	475,774.56	545,600.81	33,188.09	1,086,036.17	266,286.41	63.05	38.03	2887.84	8345.53	2,418,220.49

AMOUNT OF COOPERATIVE FUNDS EXPENDED EACH YEAR FOR RIBES ERADICATION WORK ON REGULAR BLISTER RUST CONTROL PROGRAM IN NORTHEASTERN STATES 1918 to 1940, INCLUSIVE



Federal Projects on Government Lands - Regular Cooperative Program

Control measures have been applied to most of the important white pine areas on the National Forests and Parks in the Northeastern States. Up to 1933, all control work was conducted as a regular federal project, the Bureau of Plant Industry cooperating with the National Park and Forest Services. With the exception of small projects on the Allegheny National Forest in 1933 and the White Mountain National Forest in Maine and New Hampshire during 1939, all control work on Government-owned lands in the Northeastern States since 1933 has been performed under the C.C.C. Program. However, no Ribes eradication work was done on federal lands during 1940.

The project at Acadia National Park was begun in 1929 and has been continued each succeeding year, except 1938 and 1940. All control work on this park subsequent to 1932 has been performed by crews from the two C.C.C. camps on Mount Desert Island. A survey during the fall of 1940 showed that only one small tract of 48 acres is still in need of initial protection. About one-third of the total control area at Acadia Park has been reworked since 1933. If C.C.C. labor and Park Service funds are available, the remaining initial control work will be completed during 1941 and a pre-eradication survey made of all areas initially protected more than five years ago to determine the need for re-eradication, any necessary crew work to be performed by the C.C.C. personnel.

With the possible exception of recent acquisitions, all important white pine areas on the White Mountain National Forest in New Hampshire and Maine have been given initial protection. Control work on this forest was conducted as a regular federal project during the period 1924-1931, inclusive, while C.C.C. crews were used in 1933,1934,1935,1938, and 1939. The 1939 C.C.C. work was supplemented by a small project financed by regular Forest Service funds.

Control work was started on the Allegheny National Forest in 1929 and was continued as a regular federal project from 1931 - 1933, inclusive. During the period 1934 to 1936, all Ribes eradication work on this forest was performed by C.C.C. crews, but no protection work has been done since 1936. According to a general survey made in 1936, there were 1,586 acres still in need of initial protection.

Table 10 - Summary of Ribes Eradication Work on Federal Lands in Connection With Regular Cooperative Program, 1924-1940, Inclusive.
(Data included in preceding summaries of control work under Regular Cooperative Program)

Project	Type of Erad.	Total Acreage Worked	Ribes Pulled		Total Man Days	Cost					Per Acre		
			Wild	Cult.		B.P.I.	State	Forest Service	Park Service	Total	Cost	Ribes	Man Days
Acadia National Park, Me.	All Initial	7,726	503,920	-	2,798	3,145.83	-	-	8,345.53	$11,491.36	$1.49	65.2	.36
White Mt. National Forest, Me.	All Re-Erad.	85	3,754	-	47	-	-	141.25	-	141.25	1.66	44.2	.55
White Mt. National Forest, N.H.	Initial	6,779	182,493	-	554	75.63	224.11	1,471.62	-	1,771.36	.261	26.9	.08
	Re-Erad.	5,094	10,803	-	169	-	133.50	495.20	-	628.70	.123	2.1	.03
	Total	11,873	193,296	-	723	75.63	357.61	1,966.82	-	2,400.06	.202	16.3	.06
Sub-Totals For White Mt. National Forest	Initial	6,779	182,493	-	554	75.63	224.11	1,471.62	-	1,771.36	.261	26.9	.08
	Re-Erad.	5,179	14,557	-	216	-	133.50	636.45	-	769.95	.149	2.8	.04
	Total	11,958	197,050	-	770	75.63	357.61	2,108.07	-	2,541.31	.213	16.5	.06
Alleghony National Forest, Pa.	Initial	891	129,019	8	194	136.56	-	507.71	-	644.27	.723	144.8	.22
	Re-Erad.	627	19,993	-	106	71.29	-	272.06	-	343.35	.548	31.9	.17
	Total	1,518	149,012	8	300	207.85	-	779.77	-	987.62	.651	98.2	.20
Totals	Initial	15,396	815,432	8	3,546	3,358.02	224.11	1,979.33	8,345.53	13,906.99	.903	53.0	.23
	Re-Erad.	5,806	34,550	-	322	71.29	133.50	908.51	-	1,113.30	.192	5.9	.06
	Total	21,202	849,982	8	3,868	3,429.31	357.61	2,887.84	8,345.53	15,020.29	.708	40.1	.18

Basis of costs: See Page 21.

The control work performed on federal lands under the C.C.C. Program during the period 1933-1940, inclusive, is summarized in Table 26 , and the results of all work on such areas under the Regular and C.C.C. Programs are given in Table 94.

Nursery Sanitation - Regular Cooperative Program

White pines must be grown under absolutely sanitary conditions, as regards Ribes, in order to prevent infection from blister rust. Therefore, it is essential that the white pine stock in each nursery be protected by eradicating all Ribes within 1500 feet and all European black currants from within one mile. All of the Northeastern States, except Rhode Island, have state nurseries growing white pines. Control of the disease has been established and is being maintained in all 17 of these nurseries and 2 federal nurseries in this Region. Most of the commercial pine growing nurseries are located in Massachusetts, Connecticut, New York, New Jersey, and Pennsylvania. In the other Northeastern States, there are only a few such nurseries producing white pines. Sanitation zones have been established around most of the important commercial nurseries in New England. Control work around the private nurseries in New York has been limited due to the relatively few white pines grown and the abundance of cultivated Ribes within the prescribed sanitation zones which would necessitate a large expenditure by the nursery-men for compensation if these bushes were removed. According to the present state blister rust law in New York, effective February 17, 1930 no compensation shall be paid by the state for any species of Ribes destroyed in connection with the establishment of Ribes-free zones around commercial nurseries, but fair compensation must be paid for such bushes by the person owning or operating the protected nursery. None of the commercial nurseries growing white pine in New Jersey has established sanitation zones. In Pennsylvania four commercial nurseries have taken such action. However, an effort is being made to extend protection to the most important of the commercial nurseries in that state. The status of nursery sanitation work in the various Northeastern States, as of December 31, 1940, is indicated in Table 98.

Since 1929, a separate record has been kept of the Ribes eradication work performed in the protection of white pine in the nurseries. Prior to 1930, the results of such activities were included in the regular Ribes eradication summaries.

During 1940, nursery sanitation work was performed under the Regular Cooperative Program in New Hampshire and Pennsylvania, where the environs of 7 nurseries were re-examined for Ribes. The results of the 1940 sanitation work, by states, are shown in Table 11 , while Tables 12 and 13 give the totals for the period 1930-1940, inclusive, by states and years, respectively. A marked decrease in the number of Ribes per acre is apparent in the re-eradication projects. In fact, during this period an average of only 1.3 bushes per acre was found.

Table 11 - Summary of Nursery Sanitation Work Under Regular Cooperative Program in Northeastern States During 1940
(All Re-Eradication Work)

State	No. Nurseries Worked	Acreage Worked	Ribes Pulled		Total Man Days	Total Cost (All paid by state)	Per Acre		
			Wild	Cult.			Cost	Ribes	Man Days
N. H.	1	430	0	0	4	$14.50	.034	0	.01
Penna.	6	2,969	162	0	113	349.83	.118	0.1	.04
Totals	7	3,399	162	0	117	364.33	.107	0.05	.03

Basis of costs: Includes cost of laborers, scouts and foremen while engaged in locating and eradicating Ribes in nursery sanitation zones - cost of crew transportation

Table 12 - Summary of Nursery Sanitation Work Under Regular Cooperative Program in Northeastern States, 1930-1940, Inclusive.

By States

State	Type of Erad.	Acreage Examined	Ribes Pulled		Total Man Days	Cost					Per Acre		
			Wild	Cult.		Indiv.	Towns	State	B.P.I.	Total	Cost	Ribes	Man Days
Maine	Initial	206	103,516	22	163	324.45	-	198.20	-	522.65	2.54	502.5	.7
	Re-Erad.	272	8,873	-	74	-	156.18	82.27	-	238.45	.877	32.6	.2
	Total	478	112,389	22	237	324.45	156.18	280.47	-	761.10	1.59	235.1	.5
N. H.	Initial	-	-	-	-	-	-	-	-	-	-	-	-
	Re-Erad.	2,256	7,648	-	152	172.28	-	337.21	-	509.49	.226	3.4	.0
	Total	2.256	7,648	-	152	172,28	-	337.21	-	509,49	.226	3.4	.0
Vt.	Initial	-	-	-	-	-	-	-	-	-	-	-	-
	Re-Erad.	1,150	3,082	-	160	-	-	516.01	-	516.01	.449	2.7	.1
	Total	1.150	3,082	-	160	-	-	516.01	-	516.01	.449	2.7	.1
Mass.	Initial	682	7,567	112	85	110.05	-	212.79	10.00	332.84	.488	11.1	.1
	Re-Erad.	5,828	16,668	179	708	89.20	-	2,982.84	-	3,072.04	.527	2.9	.1
	Total	6,510	24,235	291	793	199.25	-	3,195.63	10.00	3,404.88	.523	3.7	.1
R. I.	Initial	1,190	133	520	158	-	-	343.56	162.87	506.43	.426	0.1	.1
	Re-Erad.	4,563	4,622	165	110	-	-	749.62	-	749.62	.164	1.0	.0
	Total	5,753	4,755	685	268	-	-	1,093.18	162.87	1,256.05	.218	0.8	.0
Conn.	Initial	6,587	5,352	102	215	204.32	-	345.69	139.92	689.93	.105	0.8	.0
	Re-Erad.	40,669	6,065	874	1,250	557.04	-	3,557.64	610.87	4,725.55	.116	0.1	.0
	Total	47,256	11,417	976	1,465	761.36	-	3,903.33	750.79	5,415.48	.115	0.2	.0
N. Y.	Initial	3,110	26,017	634	382	5.60	-	1,219.95	-	1,225.55	.394	8.4	.1
	Re-Erad.	59,172	95,678	1,156	3,812	246.57	-	12,349.63	-	12,596.20	.213	1.6	.0
	Total	62,282	121,695	1,790	4,194	252.17	-	13,569.58	-	13,821.75	.222	2.0	.0
N. J.	Initial	600	462	49	7	-	-	22.20	-	22.20	.032	0.8	.0
	Re-Erad.	610	569	-	8	-	-	31.47	22.50	53.97	.088	0.9	.0
	Total	1,210	1,031	49	15	-	-	53.67	22.50	76.17	.063	0.9	.0
Penna.	Initial	4,115	35,920	491	261½	235.30	-	588.43	36.80	860.53	.209	8.7	.0
	Re-Erad.	13,895	28,325	43	1203	37.15	-	3,582.44	-	3,619.59	.260	2.0	.0
	Total	18,010	64,245	534	1464½	272.45	-	4,170.87	36.80	4,480.12	.249	3.6	.0
Totals	Initial	16,490	178,967	1,930	1271½	879.72	-	2,930.82	349.59	4,160.13	.252	10.9	.0
	Re-Erad.	128,415	171,530	2,417	7477	1,102.24	156.18	24,189.13	633.37	26,080.92	.203	1.3	.0
	Total	144,905	350,497	4,347	8748½	1,981.96	156.18	27,119.95	982.96	30,241.05	.209	2.4	.0

Basis of costs: See Page 27.

Table 13 - Summary of Nursery Sanitation Work Under Regular Cooperative Program In Northeastern States, 1930-1940, Inclusive.

By Years

Year	Type of Erad.	Acreage Examined	Ribes Pulled		Total Man Days	Cost					Per Acre	
			Wild	Cult.		Indiv.	Towns	State	B.P.I.	Total	Cost	Ribes/Day
1930	Initial	4,973	110,704	182	447	528.77	-	905.19	-	1,433.96	.288	22.3
	Re-Erad.	20,752	59,542	643	1,490	568.89	-	4,198.33	-	4,767.22	.230	2.9
	Total	25,725	170,246	825	1,937	1,097.66	-	5,103.52	-	6,201.18	.241	6.6
1931	Initial	3,048	6,117	55	120	5.60	-	240.36	139.92	385.88	.127	2.0
	Re-Erad.	26,776	26,126	1,086	1,671	117.69	-	4,863.42	372.50	5,353.61	.200	1.0
	Total	29,824	32,243	1,141	1,791	123.29	-	5,103.78	512.42	5,739.49	.192	1.1
1932	Initial	4,759	16,478	1,222	565	50.65	-	1,588.32	172.87	1,811.84	.381	3.5
	Re-Erad.	12,903	12,543	60	1,247	155.51	7.73	3,828.15	5.33	3,996.72	.310	1.0
	Total	17,662	29,021	1,282	1,812	206.16	7.73	5,416.47	178.20	5,808.56	.329	1.6
1933	Initial	1,490	19,102	32	67	59.40	-	196.95	36.80	293.15	.197	12.8
	Re-Erad.	18,335	33,280	368	1,297	183.50	148.45	4,608.74	255.54	5,196.23	.283	1.8
	Total	19,825	52,382	400	1,364	242.90	148.45	4,805.69	292.34	5,489.38	.277	2.6
1934	Initial	1,682	24,958	94	45	186.80	-	-	-	186.80	.111	14.8
	Re-Erad.	7,181	7,465	-	247	-	-	907.00	-	907.00	.126	1.0
	Total	8,863	32,423	94	292	186.80	-	907.00	-	1,093.80	.123	3.7
1935	Initial	148	1,608	320	27	46.90	-	-	-	46.90	.317	10.9
	Re-Erad.	11,374	5,548	145	367	34.75	-	1,178.78	-	1,213.53	.107	0.5
	Total	11,522	7,156	465	394	81.65	-	1,178.78	-	1,260.43	.109	0.6
1936	All Re.	3,688	6,194	30	346	-	-	1,288.62	-	1,288.62	.349	1.7
1937	Initial	390	0	25	½	1.60	-	-	-	1.60	.004	-
	Re-Erad.	10,569	6,566	66	323	41.90	-	1,267.63	-	1,309.53	.124	0.6
	Total	10,959	6,566	91	323½	43.50	-	1,267.63	-	1,311.13	.120	0.6
1938	All Re.	8,430	5,999	9	267	-	-	1,083.78	-	1,083.78	.129	0.7
1939	All Re.	5,008	8,105	10	105	-	-	600.35	-	600.35	.120	1.6
1940	All Re.	3,399	162	-	117	-	-	364.33	-	364.33	.107	0.05
Totals	Initial	16,490	178,967	1,930	1,271½	879.72	-	2,930.82	349.59	4,160.13	.252	10.9
	Re-Erad.	128,415	171,530	2,417	7,477	1102.24	156.18	24,189.13	633.37	26,080.92	.203	1.7
	Total	144,905	350,497	4,347	8,748½	1981.96	156.18	27,119.95	982.96	30,241.05	.209	2.4

Basis of Costs: See Page 27.

Ribes Nigrum Elimination - Regular Cooperative Program

The cooperating states are eliminating Ribes nigrum as rapidly as practicable under existing conditions. Such bushes are an important factor in the long distance spread and local establishment of the rust. The elimination of these Ribes has been conducted as a special project in four Northeastern States - Connecticut (1930-1935), Massachusetts (1930-1940), Rhode Island (1929-1933), and New York (1928-1936, 1939 and 1940). The work has been completed in all of these states, except New York. In that state containing 996 townships, the project has been finished in 236 townships and partly completed in 39 others. All of the mentioned states, except Massachusetts, have laws which prohibit the possession of such bushes. In the other five Northeastern States, the cultivated black currants are destroyed in connection with the work of eradicating wild Ribes and other cultivated bushes. It may, however, be advisable to make special arrangements for eliminating Ribes nigrum outside the control areas. The section of the Northeast now most in need of black currant elimination comprises Pennsylvania, New Jersey, and the western half of New York where the pine areas are scattered. However, many factors need careful consideration before adopting a policy regarding the elimination of Ribes nigrum in these remaining areas.

Special black currant elimination work under the Regular Cooperative Program during 1940 was restricted to New York where state employees spent five man days on such activities in two townships. A total of 76 properties were inspected and one patch of Ribes nigrum, containing six bushes, was located and the plants destroyed. The total cost of this 1940 work in New York was $24.85, all of which was paid from state funds.

Table 14 summarizes the results of the special black currant elimination work conducted under the Regular Cooperative Program during the period 1918-1940, inclusive.

Table 14 - Special Black Currant Elimination Work Under The Regular Cooperative Program in Northeastern States, 1918-1940, Inclusive.

	No. Properties Inspected	No. Patches Ribes Located	No. Ribes Pulled			Total Man Days	Cost				
			Nigrum	Other Cult.	Total		Indiv.	State	B.P.I.	P.W.A.	Tota
	393,305	4,494	32,115	-	32,115	5,552½	2351.80	20,576.44	100.00	-	23028
	110,137	1,917	16,219	1,093	17,312	1,929	-	9,178.55	675.53	473.80	10327.
	56,960	2,713	354	18,696	19,050	1,533	-	2,509.33	3647.42	912.26	7069.
	522,476	5,103	36,936	761	37,697	5,140½	-	27,302.22	-	-	27302.
	1,082,878	14,227	85,624	20,550	106,174	14,155	2351.80	59,566.54	4422.95	1386.06	67727.

Basis of costs: Includes cost of laborers, scouts, and foremen while engaged in locating and destroying Ribes nigrum and other cultivated bushes as indicated - owners' labor figured at rate of 40 cents per hour.

Blister Rust Canker Elimination Work - Regular Cooperative Program

During 1940, three land owners in Maine and one town in Vermont paid the wages of laborers engaged in cutting out blister rust cankers from white pines on their properties. The state also paid a small portion of the costs of the work in Vermont. These projects were supervised technically by the respective district leaders. Tables 15 and 16 summarize the results accomplished in 1940 and during the period 1932-1940, inclusive.

Most of the canker elimination work in this Region has been performed on public lands in connection with the Emergency Program. Such activities under the Regular Cooperative Program prior to 1940 were restricted to the 1932 project at Acadia National Park in Maine and a few instances where private land owners in Maine and Vermont paid all of the costs of the work on their properties.

Table 15 - Blister Rust Canker Elimination Work Conducted Under Regular Cooperative Program in Northeastern States During 1940.

State		Maine	Vermont	Totals
Est. no. pines examined		651	2,153	2,804
No. fatally infected pines cut down		57	13	70
No. pines from which cankers removed		158	92	250
No. cankers removed	Branch	406	37	443
	Stem	26	65	91
Total man days		33	16	49
Cost	Individuals	$128.20	-	$128.20
	Town	-	$50.00	50.00
	State	-	12.00	12.00
	Total	$128.20	$62.00	$190.00

Basis of costs: - Includes wages of laborers and foremen, employed by the land owners and town, while engaged on canker elimination work.

Table 16 - Blister Rust Canker Elimination Work Conducted Under Regular Cooperative Program in Northeastern States, 1932-1940, Inclusive.

State		Maine	Vermont	Totals
Est. no pines examined		97,531	18,047	115,578
No. fatally infected pines cut down		8,262	1,395	9,657
No. pines from which cankers removed		12,717	1,628	14,345
No. cankers removed	Branch	19,280	2,729	22,009
	Stem	1,905	208	2,113
Total man days		760	153	913
Cost	Individuals	$2,212.84	$446.02	$2,658.86
	Town	-	50.00	50.00
	State	31.65	12.00	43.65
	Nat'l Park Service	321.04	-	321.04
	Total	$2,565.53	$508.02	$3,073.55

Basis of costs: - Includes wages of laborers and foremen (employed by land owners, town, and National Park Service) while engaged on blister rust canker elimination work - cost of equipment purchased by National Park Service.

Table 16 includes the results of the 1932 work at Acadia National Park in Maine when 2,546 pines were examined and 319 fatally infected trees cut down. In addition, 1,480 branch cankers and 61 stem infections were removed from 715 other infected pines. This 1932 project at Acadia National Park required 100 days labor and the total cost of the work was $321.04 to the National Park Service. C.C.C. laborers were used on similar activities at Acadia National Park during the period 1933-1939, inclusive - See Table 30 for the results of this C.C.C. work.

In addition to the canker elimination work reported in Table 16, the ornamental pines on the state reservation at Saratoga, New York were examined by state employees for blister rust infection during 1933. The area contained 75 acres of plantations about 20 years old. There was also considerable natural white pine scattered over some 700 acres of woodlands. The pines had been previously pruned to a height of 6 feet which aided materially in inspecting them for infection. The work disclosed a total of 113 diseased trees, 49 of which had died from blister rust. These dead trees were cut down, and limb infections were also removed from 64 other pines. No time or cost figures are available for this work.

Pine and Control Area Mapping - Regular Cooperative Program

Pine and control area mapping is an essential part of blister rust control, especially in sections where the pine areas are scattered and where the Ribes eradication work is performed by crews composed of inexperienced men obtained from relief sources. Such maps assist the crew foremen in locating the boundaries of control areas, and consequently limit their activities to crew supervision.

During the period of experimental control work from 1918 to 1921, the white pine areas in Rhode Island, Connecticut and Vermont were roughly mapped, also a few sample townships were type mapped in Maine, New Hampshire and Massachusetts in order to develop methods and determine costs. The amount of mapping work was necessarily limited, as the field personnel was employed only during the Ribes eradication season. Funds were sufficient to employ only the state leaders on a yearly basis. Since 1922, a force of district leaders have also been employed full time. During the Ribes eradication season these men are engaged chiefly in supervising crew and scout activities and prior to the advent of the Emergency programs in 1933, their time during the fall, winter and early spring months was devoted mainly to informational and service activities to secure local cooperation in control activities during the following Ribes eradication season. Consequently, these leaders were unable to do much pine mapping. Also in large portions of Maine, New Hampshire, Massachusetts and New York the pine areas were so continuous that detailed pine mapping was not essential. Under such conditions, where town and state money was available, the eradication work was conducted on the basis of road block units irrespective of property lines. In New York, woodland maps were prepared for many of the counties chiefly by state men. Such maps showed, by symbols, the location of the white pine areas. In all instances, the boundaries of all control areas have been designated on maps, but the pine areas within the control areas have been mapped only during recent years when relief labor has been available for such work.

During the past few years, the unprotected pine areas have been smaller and more scattered. Consequently, there has been a greater need for detailed pine and control area maps. The Emergency programs since 1933 have been of great assistance in providing men to do the necessary mapping. Similar activities on a small scale were conducted under the Regular Cooperative Program during the period 1933-1936, inclusive, but all of the 1937 and 1938 work was performed under the C.C.C. and W.P.A. Programs. During 1940, a few state employees were assigned to mapping work in 16 townships in New York. Table 17 summarizes this 1940 pre-eradication survey work in New York and the accomplishments under the Regular Cooperative Program since 1933.

Table 17 - Pine and Control Area Mapping Under The Regular Cooperative Program in Northeastern States During 1940 and Period 1933-1940, Inclusive.

State	Period	Acreage Mapped	Acreage Examined But Not Mapped	Total Man Days	Total Cost (All State)
Maine	1933 & 1935	21,976	36,055	104	$625.98
N. H.	1935	18,338	-	311	1,244.00
Conn.	1934	120	1,600	7	35.00
N.Y.	1940	31,926	33,095	223	1,083.10
	1934-1940	353,506	198,505	1,607	7,740.82
Totals	1940	31,926	33,095	223	1,083.10
	1933-1940	393,940	236,160	2,029	9,645.80

Table 18 - Total Expenditures, By Cooperating Agencies, Under The Regular Cooperative Program In Northeastern States During 1940

State	State Funds	Towns	Indiv.	Counties	B.E. and P.Q.	Total
Maine	3,655.62	3,098.72	128.20	-	12,041.27	18,923.81
N. H.	3,903.48	9,819.91	-	-	10,888.76	24,612.15
Vt.	1,353.32	50.00	-	-	7,804.46	9,207.78
Mass.	233.97	-	2,063.37	-	11,300.43	13,597.77
R. I.	2,799.76	-	-	-	1,299.96	4,099.72
Conn.	3,187.64	-	-	-	4,000.10	7,187.74
N. Y.	16,367.60	-	448.20	8,110.80	11,042.49	35,969.09
Penna.	4,308.03	-	-	-	7,678.81	11,986.84
Totals	35,809.42	12,968.63	2,639.77	8,110.80	66,056.28	125,584.90

Table 19 - Total Cooperative Expenditures, By Projects, Under Regular Cooperative Program in Northeastern States During 1940.

State	Supervision and BRC Agent Activities	Ribes Eradication	Eradication Assistants and Checkers	Nursery Sanitation	Black Currant Elimination	Blister Rust Canker Elimination	Field Data		Total
							Mapping	General	
Maine	14,264.16	4,273.68	257.77	-	-	128.20	-	-	18,923.81
N. H.	12,152.87	12,393.12	-	14.50	-	-	-	51.66	24,612.15
Vt.	9,145.78	-	-	-	-	62.00	-	-	9,207.78
Mass.	11,534.40	2,063.37	-	-	-	-	-	-	13,597.77
R. I.	4,099.72	-	-	-	-	-	-	-	4,099.72
Conn.	7,187.74	-	-	-	-	-	-	-	7,187.74
N. Y.	11,042.49	18,002.01	1,941.95	-	24.85	-	1,083.10	3,874.69	35,969.09
Penna.	8,334.41	3,138.97	163.63	349.83	-	-	-	-	11,986.84
Totals	77,761.57	39,871.15	2,363.35	364.33	24.85	190.20	1,083.10	3,926.35	125,584.90

Table 20 - Total Expenditures, By Cooperating Agencies, Under Regular Cooperative Program In Northeastern States, 1918-1940, Inclusive.

State	State Funds	Towns	Individuals	Counties	P.W.A.	B.P.I.	B.E.&P.Q.	Forest Service	Park Service	WPA	Total
Maine	122,911.37	113,078.62	84,914.41	-	-	249,874.54	49,109.00	141.25	9639.44	38.03	629,706.6
N. H.	295,045.06	419,173.29	47,804.51	-	-	434,415.50	46,479.03	2442.11	-	-	1,245,359.5
Vt.	56,362.28	1,127.91	72,984.30	-	-	119,313.44	32,837.35	-	-	-	282,625.3
Mass.	387,087.81	1,699.22	94,331.71	-	-	323,303.88	46,035.13	-	-	-	752,457.7
R. I.	65,477.80	-	581.36	-	473.80	43,883.85	3,276.04	-	-	-	113,692.
Conn.	131,761.69	12,187.89	8,383.69	-	912.26	101,725.56	21,526.05	-	-	-	276,497.
N. Y.	1,013,290.64	90.00	172,162.57	33,188.09	-	479,769.34	50,646.35	-	-	-	1,749,146.
N. J.	15,700.94	-	-	-	-	6,271.28	2,920.10	-	-	-	24,892.
Penna.	110,237.59	-	1,881.73	-	-	31,619.21	34,502.80	779.77	-	-	179,021.
Totals	2,097,875.18	547,356.93	483,044.28	33,188.09	1386.06	1,790,176.58	287,331.85	3363.13	9639.44	38.03	5,253,399.

Table 21 - Total Cooperative Expenditures, By Projects, Under Regular Cooperative Program In Northeastern States, 1918-1940, Inclusive.

State	Supervision and BRC Agent Activities	Ribes Eradication	Eradication Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Ribes Compensation	Blister Rust Canker Elimination	Field Data		Total
								Mapping	General	
Maine	309,644.40	279,793.81	2,301.74	-	10,261.10(1)	-	2,565.53	625.98	24,514.10	629,706.
N. H.	462,424.39	701,982.02	32,188.46	-	509.49	550.60	-	1,244.00	46,460.54	1,245,359.
Vt.	158,702.55	96,152.22	-	-	516.01	792.91	508.02	-	25,953.57	282,625.
Mass.	331,147.29	330,999.27	-	23,028.24	3,919.73(2)	14,547.10	-	-	48,816.12	752,457.
R. I.	59,118.07	32,238.35	1,000.00	10,327.88	1,256.05	509.79	-	-	9,242.69	113,692.
Conn.	141,479.89	76,289.58	475.06	7,069.01	5,415.43	103.50	-	35.00	45,629.62	276,497.
N. Y.	464,790.59	848,554.64	92,983.05	27,302.22	13,821.75	5,587.99	-	7,740.82	288,365.95	1,749,146.
N. J.	20,032.71	-	-	-	300.53(3)	-	-	-	4,559.08	24,892.
Penna.	106,972.17	52,210.60	2,617.70	-	4,480.12	153.00	-	-	12,587.51	179,021.
Totals	2,054,312.06	2,418,220.49	131,565.99	67,727.35	40,480.26	22,244.89	3,073.55	9,645.80	506,129.18	5,253,399.

(1) Includes $9,500.00 (charge of $500.00 per year) for nursery inspection work from 1918-1936, inclusive.
(2) Includes $514.65 for special nursery inspection work during 1933-1934.
(3) Includes $224.36 for special nursery inspection work during 1932.

BLISTER RUST CONTROL ACTIVITIES UNDER THE C.C.C. CONTROL PROGRAM IN THE NORTHEASTERN STATES

The C.C.C. Program has provided a large force of men for Ribes eradication work in the Northeastern States and has resulted in the application of control measures on 2,524,216 acres during the period 1933-1940, inclusive, approximately 46% of this total acreage being re-eradication. Prior control work on many of the areas had been prevented either by lack of cooperation or because the cost of eradicating the existing Ribes was excessive under ordinary conditions. In addition, many C.C.C. employees have been available for other phases of control work such as nursery sanitation, pre-eradication surveys, and blister rust canker elimination.

Due to the closing of many camps and the urgency of other important forestry projects, the number of C.C.C. men assigned to blister rust control work has consistently decreased during the past four years. Another reason for this reduction is that all necessary control work has been completed within working distance of several camps. During 1940, C.C.C. personnel from 66 camps in all of the Northeastern States, except New Jersey, were assigned to Ribes eradication work for varying periods from May to September, inclusive. All of the 1940 work was performed on state or privately-owned lands, as no C.C.C. labor was available for such activities from the camps on the National Forests and Parks in this Region. In Massachusetts, all C.C.C. control work was limited to publicly-owned lands.

Responsibilities and Direction of Work

The 1940 field activities of the crews assigned to blister rust control work were directly supervised by C.C.C. technical foremen and checkers. A few experienced state paid foremen also assisted on such supervisory activities in Massachusetts, Connecticut, and New York. In all states, except Pennsylvania, the district or state blister rust control leaders gave technical supervision to the C.C.C. projects by selecting the areas to be protected, assisting in training the personnel in proper methods of control, and checking the work to make sure desired results were obtained. Such technical supervision in Pennsylvania was furnished by two full-time C.C.C. checkers under the direction of the state blister rust control leader. No C.C.C. checkers are now employed in any of the other Northeastern States.

Distribution of Work and Personnel Employed

The distribution of the 1940 C.C.C. Ribes eradication work and the personnel assigned to such projects are shown in Table 22. Although work was conducted from two more camps than during the previous year, the average number of enlisted men assigned to such activities during 1940 was nearly 14 percent less than in 1939.

Pennsylvania was the only state where C.C.C. employees were available for control activities after the close of the Ribes eradication season. In that state, two C.C.C. checkers were employed continuously throughout the year and from 3 to 8 enlisted men from 25 camps were assigned to pre-eradication survey work for short periods during the spring, fall, and winter months.

Table 22 - Distribution of Work and Personnel Employed on C.C.C. Ribes Eradication Projects in Northeastern States During 1940

State	No. C.C.C. Camps Where Control Work Performed	No. Towns Where Control Work Performed	Ave. Number Enlisted Men Assigned	Number Technical Foremen and Checkers
Maine	3	3	167	17
N. H.	2	2	21	2
Vt.	3	5	86	4
Mass.	3	6	29	3
R. I.	2	3	37	2
Conn.	7	12	131	9
N. Y.	19	34	276	27
Penna.	27	58	614	36
Totals	66	123	1,361	100

Basis For Computing Costs and Man Days Data For C.C.C. Work

It is impossible to give accurate cost figures for the time of the enlisted men assigned to C.C.C. control activities. In compiling such cost data for this report, the wages of the enlisted men were figured at the rate of $1.00 per day plus an arbitrary charge for subsistence computed at the rate of 35 cents per day in 1933, 40 cents in 1934, and 50 cents for the period 1935-1940 inclusive. Accurate data have been available for the wages and expenses of the technical foremen and checkers, and any state employees assigned to the C.C.C. work.

When actual transportation costs were not available for the C.C.C. projects, such expenses have been estimated either on the basis of $40.00 per month for each truck plus 3 cents per mile for operating costs or at the rate of 12 cents per mile for each mile the truck was used on the project.

In computing man days data for the C.C.C. activities, the total time of the enlisted men (8 hours per day) was charged during the period 1933-1938, inclusive. This included time spent traveling to and from work and the lunch hour. During 1939 and 1940, only the actual working time of the C.C.C. enlisted personnel was charged, and the man days data obtained by dividing the total working time by 8. On this basis, a much fairer comparison can be made of the C.C.C. man day accomplishments and similar values for work performed under other programs. In figuring the C.C.C. costs during 1939 and 1940, however, the enlisted mens' total working time was divided by six, and $1.50 charged for each six hour man day.

Accomplishments in Various Blister Rust Control Projects Under C.C.C. Program in Northeastern States

Ribes Eradication Work During 1940

An average of 1361 enlisted men from 66 C.C.C. camps were assigned to Ribes eradication work conducted in 123 townships during 1940 in all of the Northeastern States, except New Jersey. A total of 157,876 acres was cleared of 2,107,494 wild Ribes and 5,169 cultivated bushes as a result of 57,577 man days labor by the C.C.C. crews. Of this total, 55,486 acres, or 35.1%, was initial control work. The total acreage examined for Ribes under the C.C.C. Program represents 22.5 percent of all the 1940 control work in the Region. Figured on the basis outlined on Page 37, the total cost of the 1940 C.C.C. Ribes eradication work, exclusive of supervision, amounted to $127,329.87 or 80.7 cents per acre as compared with 99.5 cents per acre in 1939, or a reduction of 18.9%.

An analysis of the per acre values for the 1940 Ribes eradication work in the various states, as indicated in Table 23, shows considerable variation. No satisfactory comparison can be made between the per acre values for the initial and re-eradication work because the same areas are not involved. For example, the per acre values for the 1940 re-eradication work in Massachusetts are approximately twice as high as those for the initial work in that state. In Vermont and Pennsylvania, fewer Ribes were destroyed per acre on the re-eradication work but the man days per acre were slightly higher for the latter class of work. It is quite evident that the time required to do Ribes eradication work is dependent on many factors, such as: number, size and distribution of Ribes; density of undergrowth; topography; and the experience, ability and efficiency of the personnel. This conclusion is also illustrated by the per acre values for all C.C.C. work during 1940. Over 2.5 times as many Ribes were found on the initial work, but the average man days per acre was only 1.5 times more than that for re-eradication.

Ribes Eradication Work From 1933 to 1940, Inclusive.

Tables 24 and 25 summarize the results of the C.C.C. Ribes eradication work by states, years, and classes of work during the period 1933-1940, inclusive. The total acreage (2,524,216) cleared of Ribes under the C.C.C. Program represents 35.4 percent of all control work performed in the Northeastern States during this period.

The graphs on Pages 43 and 44 show the per acre values for all Ribes eradication work performed under the C.C.C. Program in the Northeastern States from 1933 to 1940, inclusive, by states and years. The per acre cost of the C.C.C. work has been comparable to the cost of similar work performed under the other Emergency Programs, but the average man days per acre has been considerably higher. The similarity in cost is due to the fact that only a nominal charge has been made for the enlisted personnels' time, while the higher man days required per acre on the C.C.C. work can be attributed to the following causes:

(1) The district blister rust control leaders' activities in connection with the C.C.C. Program have been limited to technical supervision. They have instructed the C.C.C. personnel as to where and how to do the necessary control work and performed sufficient administrative checking to make sure the desired results were obtained. However, lack of full authority over the field men was a severe handicap in many instances. The amount and quality of the supervision provided by the C.C.C. technical foremen was also inadequate in some cases.

(2) Practically all of the total acreage has been worked by crews in strip formation. In many instances, the areas undoubtedly could have been worked by scouts, but experienced men were not available. The necessity of emphasizing the fundamentals of Ribes eradication work to a changing and inexperienced personnel (chiefly men from cities with little or no experience in manual labor or woods work) frequently prevented refinements in crew methods to eliminate lost motion and to increase crew flexibility under varying field conditions.

(3) The total time of the C.C.C. enlisted men (8 hours per man day) was charged during the period 1933-1938, inclusive, in computing the cost and man days spent on the eradication work. This includes time consumed in traveling to and from work and the lunch hour. Only about 6 hours of actual field work was performed per day on the C.C.C. projects as compared with eight hours for similar work under all other programs except the S.C.S. This difference of 25 percent in productive C.C.C. time during the period 1933-1938 should be considered in any comparison of results under the various programs.

Based on totals for all states, there has been little variation in the yearly per acre values for the Ribes eradication work under the C.C.C. Program since 1933 - see Table 25 and graph on Page 44 . However, an analysis of such values, by states, as indicated in Table 24 and the graph on Page 43 shows a wide range in several instances. The low per acre man day figures for Rhode Island and Connecticut are due primarily to the small number and size of the bushes and the topography encountered in these two states; whereas in Pennsylvania and in some sections of New York numerous large bushes are found in many of the control areas, some of which comprise small scattered pine lots in remote, wooded, hilly areas. In the other New England States, the sites selected for the C.C.C. work usually represent difficulty factors above average; many of the areas have contained heavy Ribes concentration.

Table 23 - Ribes Eradication Work Performed Under C.C.C. Program in Northeastern States During 1940

(Excludes nursery sanitation and cultivated black currant elimination)

State	Type of Erad.	Acreage		No. Ribes Pulled		Total Man Days	Cost			Per Acre		
		Total Worked	Pine Protected	Wild	Cult		State	C.C.C.	Total	Cost	Ribes	Man Days
Maine	Initial.	8,489	2,559	319,039	305	4,748	-	$10,638.78	$10,638.78	$1.25	37.6	.56
	Re-Erad.	15,802	6,928	131,375	131	4,789	-	10,465.26	10,465.26	.662	8.3	.30
	Total	24,291	9,487	450,414	436	9,537	-	21,104.04	21,104.04	.869	18.5	.39
N. H.	All Init.	835	525	23,264	-	630	-	1,483.92	1,483.92	1.78	27.9	.75
Vt.	Initial	8,350	1,190	58,573	69	2,164	-	4,778.91	4,778.91	.572	7.0	.26
	Re-Erad.	288	138	1,934	-	85	-	191.01	191.01	.663	6.7	.30
	Total	8,638	1,328	60,507	69	2,249	-	4,969.92	4,969.92	.575	7.0	.26
Mass.	Initial	6,259	1,678	33,360	-	1,225	-	2,700.81	2,700.81	.431	5.3	.20
	Re-Erad.	740	254	8,769	-	286	-	629.89	629.89	.851	11.8	.39
	Total	6,999	1,932	42,129	-	1,511	-	3,330.70	3,330.70	.476	6.0	.22
R. I.	All Re.	7,332	2,607	5,055	8	1,765	10.94	3,959.18	3,970.12	.541	0.7	.24
Conn.	All Re.	40,038	8,640	405,074	763	6,515	-	13,879.97	13,879.97	.347	10.1	.16
N. Y.	Initial	7,559	2,988	257,142	167	3,627	-	8,049.19	8,049.19	1.06	34.0	.43
	Re-Erad.	19,819	7,017	170,461	32	6,835	59.95	15,218.67	15,278.62	.771	8.6	.34
	Total	27,378	10,005	427,603	199	10,462	59.95	23,267.86	23,327.81	.852	15.6	.38
Penna.	Initial	23,994	5,008	525,461	3,638	13,610	-	29,794.90	29,794.90	1.24	21.8	.57
	Re-Erad.	18,371	4,492	169,987	56	11,298	-	25,468.49	25,468.49	1.39	9.3	.61
	Total	42,365	9,500	693,448	3,694	24,908	-	55,263.39	55,263.39	1.30	16.4	.59
Totals	Initial	55,486	13,948	1,214,839	4,179	26,004	-	57,446.51	57,446.51	1.04	21.9	.47
	Re-Erad.	102,390	30,076	892,655	990	31,573	70.89	69,812.47	69,883.36	.683	8.7	.31
	Total	157,876	44,024	2,107,494	5,169	57,577	70.89	127,258.98	127,329.87	.807	13.3	.36

Basis of costs: Includes wages of enlisted men figured at $1.00 per six hour man day plus arbitrary charge of 50 cents per day for subsistence - cost of crew transportation figured on basis of $40. per month for each truck plus 3 cents per mile for operating costs or at rate of 12 cents per mile for each mile truck was used on the project - and miscellaneous expenses for trail paper, picks, etc. Only actual working time of enlisted men included - man days data for Table 23 obtained by dividing actual working time by eight.

White Pine Blister Rust Control Operations in Northeastern States During Period 1938-1940, Inclusive

(Includes nursery sanitation and cultivated black currant elimination)

By States

State	Type of Erad.	Total Acreage Worked	No. Ribes Pulled		Total Man Days	Cost			Per Acre		
			Wild	Cult		State	C.C.C.	Total	Cost	Ribes	Man Days
Maine	Initial	221,261	9,220,205	8,415	96,160	-	$158,672.94	$158,672.94	.717	41.9	.44
	Re-Erad.	220,016	3,185,044	3,014	55,563	$135.00	95,094.32	95,229.32	.432	14.4	.26
	Total	441,277	12,405,249	11,429	151,723	135.00	253,767.26	253,902.26	.575	29.2	.70
N. H.	Initial	83,054	5,951,812	458	47,900	81.80	76,080.01	76,161.81	.917	71.7	.58
	Re-Erad.	39,891	1,612,453	-	15,661	62.20	25,169.01	25,231.21	.632	40.4	.40
	Total	122,945	7,564,265	458	63,561	144.00	101,249.02	101,393.02	.825	61.5	.52
Vt.	Initial	62,425	2,744,095	854	28,342	-	47,410.98	47,410.98	.759	44.0	.46
	Re-Erad.	32,275	679,692	106	15,059	-	24,135.14	24,135.14	.748	21.1	.47
	Total	94,700	3,423,785	960	43,401	-	71,546.12	71,546.12	.755	36.2	.46
Mass.	Initial	46,164	1,227,855	2,666	20,573	-	33,459.15	33,459.15	.629	23.1	.45
	Re-Erad.	31,826	453,835	690	13,100	-	21,300.82	21,300.82	.680	15.3	.41
	Total	54,490	1,681,690	3,376	33,673	-	54,759.97	54,759.97	.648	19.7	.40
N. Y.	Initial	19,442	44,678	617	8,873	-	14,188.52	14,188.52	.551	1.1	.46
	Re-Erad.	204,211	207,778	6,157	39,363	25.94	63,540.59	63,566.53	.311	1.0	.19
	Total	244,099	252,456	6,774	48,239	25.94	77,729.11	77,755.05	.318	1.0	.20
Conn.	Initial	100,707	448,062	4,830	15,007	-	22,569.50	22,569.50	.222	4.4	.15
	Re-Erad.	229,328	2,783,646	4,227	60,649	-	105,593.36	105,593.36	.459	12.1	.26
	Total	330,535	3,231,714	9,057	73,656	-	127,962.86	127,962.86	.387	9.8	.22
N. J.	Initial	383,359	17,262,317	30,097	251,915	22,231.90	410,667.04	432,388.94	.782	31.1	.45
	Re-Erad.	235,265	3,978,029	1,527	106,093	5,900.58	183,188.58	189,089.16	.804	16.9	.45
	Total	768,624	21,210,346	31,624	358,008	28,122.48	593,855.62	621,978.10	.789	25.9	.45
S. J.	All Init.	381	19,795	304	247	-	346.50	346.50	.909	52.0	.67
Maine.	Initial	247,075	12,378,680	26,354	208,296	-	348,519.41	348,519.41	1.41	50.1	.84
	Re-Erad.	168,930	3,426,260	2,288	133,803	360.00	225,414.07	225,774.07	1.34	20.3	.79
	Total	416,005	15,799,540	28,592	342,099	360.00	573,933.48	574,293.48	1.38	38.0	.82
Totals	Initial	1,561,874	49,521,505	74,815	675,316	22,303.70	1,111,714.05	1,134,017.75	.833	31.7	.60
	Re-Erad.	1,162,342	16,307,337	17,959	439,291	6,483.72	743,435.89	749,919.61	.645	14.0	.38
	Total	2,524,816	65,828,840	92,574	1,114,607	28,787.42	1,855,149.94	1,883,937.36	.746	26.0	.44

Basis of costs: Includes wages of enlisted men figured at $1.00 per eight hour day for period 1933-1938 and $1.00 per six hour day during 1939 and 1940 plus arbitrary charge of 35 cents per man day for subsistence in 1940, 40 cents [illegible], and 50 cents from 1935-1939. Inclusive - cost of camp administration figured at $10. per month for each [illegible]

Table 25 - Ribes Eradication Work Performed Under C.C.C. Program in Northeastern States During Period 1933-1940, Inclusive

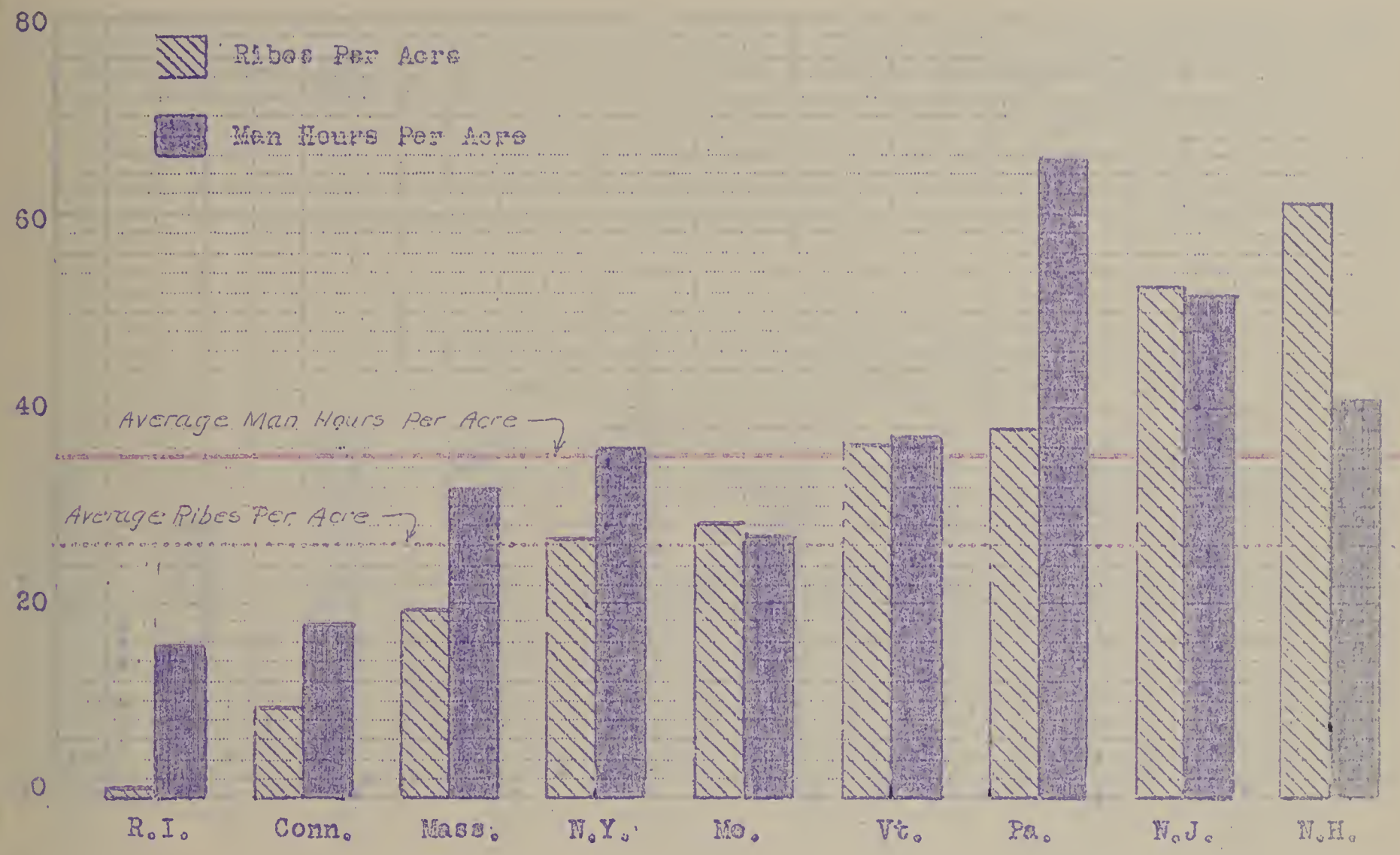
(Excludes nursery sanitation and cultivated black currant elimination)

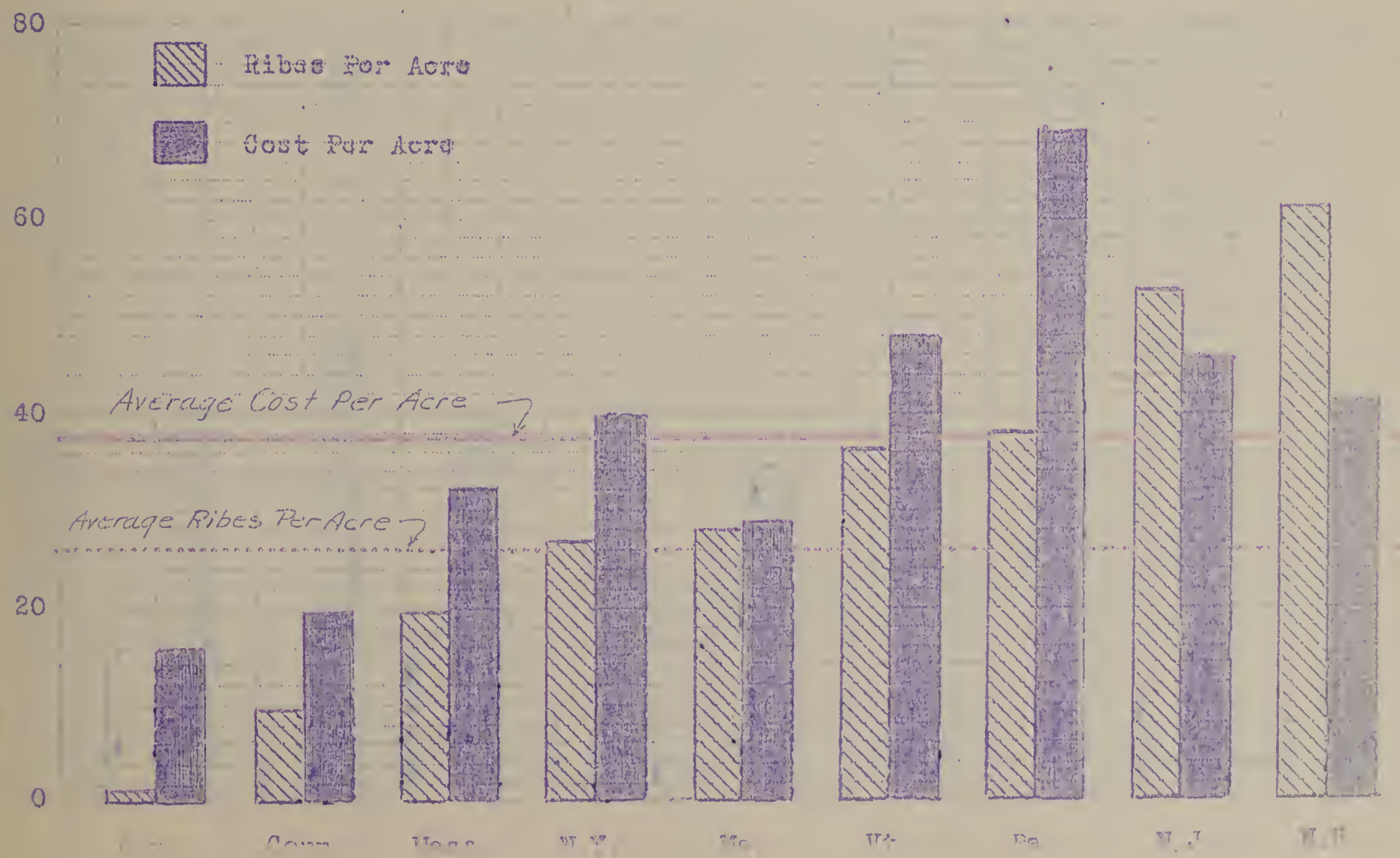
By Years

Year	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Cost			Per Acre		
			Wild	Cult		State	C.C.C.	Total	Cost	Ribes	Man Days
1933	Initial	125,328	5,584,682	4,674	65,656	-	98,309.68	98,309.68	.784	44.6	.52
	Re-Erad.	119,990	2,626,432	453	56,962	-	83,832.68	83,832.68	.699	21.9	.47
	Total	245,318	8,211,114	5,127	122,620	-	182,142.36	182,142.36	.742	33.5	.50
1934	Initial	240,435	11,254,398	8,205	106,932	2,269.80	168,122.47	170,392.27	.709	46.8	.44
	Re-Erad.	133,527	2,392,151	939	61,266	840.20	95,394.89	96,235.09	.721	17.9	.46
	Total	373,960	13,646,549	9,144	168,198	3,110.00	263,517.36	266,627.36	.715	36.5	.45
1935	Initial	353,431	11,418,110	22,185	154,909	11,709.21	234,977.46	246,686.67	.740	34.2	.44
	Re-Erad.	175,898	2,528,305	5,663	65,752	2,330.62	101,515.03	103,845.65	.590	14.4	.37
	Total	509,329	13,946,415	27,848	220,661	14,039.83	336,492.49	350,532.32	.688	27.4	.43
1936	Initial	295,825	10,735,179	20,508	146,380	5,593.99	242,011.80	247,605.79	.843	36.5	.49
	Re-Erad.	261,005	3,256,194	6,455	79,216	2,174.07	132,679.52	134,853.59	.517	12.5	.30
	Total	554,828	13,991,373	26,963	225,593	7,760.06	374,691.32	382,459.38	.689	25.2	.41
1937	Initial	152,782	4,876,038	10,037	88,692	392.85	151,107.47	151,500.32	.992	31.9	.58
	Re-Erad.	131,959	1,633,149	1,117	47,681	92.15	79,433.72	79,525.87	.603	12.4	.36
	Total	284,741	6,509,287	11,154	136,373	485.00	230,541.19	231,026.19	.811	22.9	.48
1938	Initial	100,597	2,620,545	2,834	56,717	2,337.85	94,525.59	96,863.44	.963	26.1	.56
	Re-Erad.	142,075	1,624,513	1,697	55,256	975.79	91,044.93	92,020.72	.648	11.4	.39
	Total	242,672	4,245,056	4,531	111,953	3,313.64	185,570.52	188,884.16	.779	17.5	.46
1939	Initial	60,192	1,617,664	1,993	30,024	-	65,213.07	65,213.07	1.08	26.9	.50
	Re-Erad.	95,500	1,353,938	645	41,603	-	89,722.65	89,722.65	.939	14.2	.44
	Total	155,692	2,971,602	2,638	71,627	-	154,935.72	154,935.72	.995	19.1	.46
1940	Initial	55,480	1,214,339	4,179	26,004	-	57,446.51	57,446.51	1.04	21.9	.47
	Re-Erad.	102,390	892,655	990	31,573	70.89	69,812.47	69,883.36	.683	8.7	.31
	Total	157,876	2,107,494	5,169	57,577	70.89	127,258.98	127,329.87	.807	13.3	.36
Totals	Initial	1,361,874	49,321,503	74,615	675,316	22,303.70	1,111,714.05	1,134,017.75	.833	36.2	.50
	Re-Erad.	1,162,342	16,307,337	17,959	459,291	6,483.72	743,435.89	749,919.61	.645	14.0	.40
	Total	2,524,216	65,628,840	92,574	1,114,607	28,787.42	1,855,149.94	1,883,937.36	.746	26.0	.44

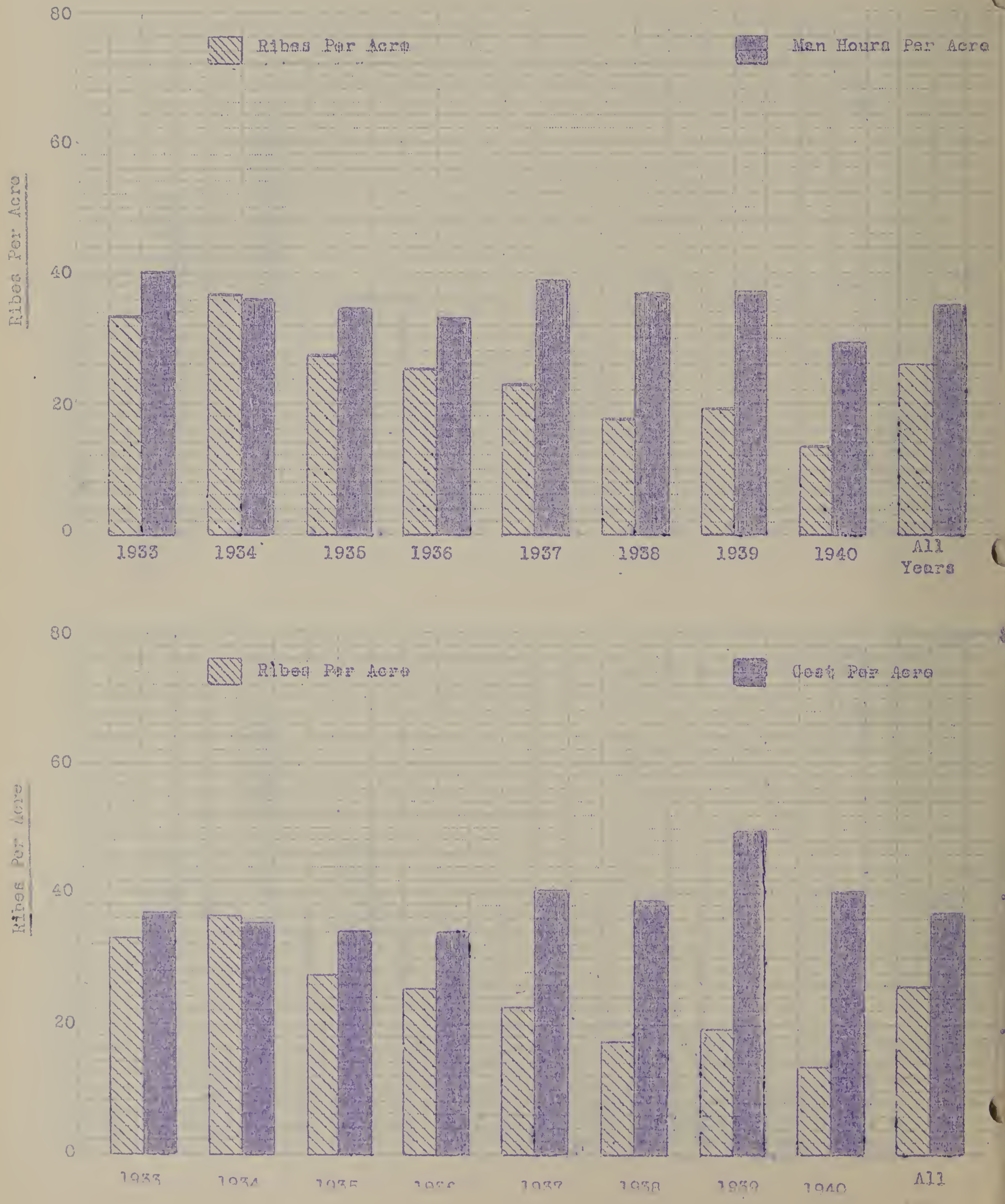
Basis of costs: See Page 41.

COMPARISON, BY STATES, OF PER ACRE VALUES FOR RIBES ERADICATION UNDER C.C.C. PROGRAM IN NORTHEASTERN STATES - 1933 to 1940, INCLUSIVE





COMPARISON, BY YEARS, OF PER ACRE VALUES FOR RIBES ERADICATION WORK UNDER C.C.C. PROGRAM IN NORTHEASTERN STATES - 1933 to 1940, INCLUSIVE



Ribes Eradication Work on National Forests and Parks Under C.C.C. Program

No Ribes eradication work was performed on National Forests or Parks under the C.C.C. Program during 1940.

Table 26 summarizes the results of all Ribes eradication work performed by the C.C.C. personnel at Acadia National Park and on the two National Forests in this Region from 1933 to 1940, inclusive. C.C.C. crews were assigned to the control project at Acadia National Park each year except in 1938 and 1940. On the White Mountain National Forest, such work was performed by C.C.C. units in 1933, 1935, 1938, and 1939. Control activities under this program on the Allegheny National Forests were restricted to the period 1934 - 1936, inclusive.

Table 26 - Ribes Eradication Work Performed on National Forests and Parks Under C.C.C. Program in Northeastern States
(Data included in Tables 24 and 25)
1933 - 1940

Project	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Total Cost (All C.C.C.)	Per Acre		
			Wild	Cult.			Cost	Ribes	Man Days
Acadia National Park, Me.	Initial	12,942	389,217	293	8,420	$13,468.20	1.04	30.1	.65
	Re-Erad.	9,407	35,191	-	3,562	5,988.71	.637	3.7	.38
	Total	22,349	424,408	293	11,982	19,456.91	.871	19.0	.54
White Mt. National Forest, N.H.	Initial	1,950	633,781	85	2,325	3,423.74	1.76	325.0	1.19
	Re-Erad.	3,799	309,521	-	1,700	2,811.47	.740	81.5	.45
	Total	5,749	943,302	85	4,025	6,235.21	1.08	164.1	.70
Allegheny National Forest, Pa.	Initial	3,267	630,356	22	2,045	3,166.92	.969	192.9	.63
	Re-Erad.	525	41,068	-	435	646.41	1.23	78.2	.83
	Total	3,792	671,424	22	2,480	3,813.33	1.01	177.1	.65
Totals	Initial	18,159	1,653,354	400	12,790	20,058.86	1.10	91.0	.70
	Re-Erad.	13,731	385,780	-	5,697	9,446.59	.688	28.1	.41
	Total	31,890	2,039,134	400	18,487	29,505.45	.925	63.9	.58

Basis of costs: See Page 41.

A survey during the fall of 1940 showed that initial control work has now been completed on all Acadia National Park areas which contain sufficient white pine to justify the cost of Ribes eradication, except one small tract of approximately 48 acres. About one third of the total control area on this Park has been reworked. Recommendations for 1941 control activities at Acadia National Park include completion of the initial work and a pre-eradication survey of all areas initially protected more than five years ago which have not been reworked to determine the portions, if any, where the Ribes regrowth is a menace to the pines. If C.C.C. labor is available, such areas should be reworked in 1941.

Initial control work has been completed on all white pine areas on the White Mountain National Forest, with the possible exception of recent acquisitions. Areas, aggregating 1,586 acres, on the Allegheny National Forest are still in need of initial protection.

Table 27 - Supervision of Ribes Eradication Work Under C.C.C. Program in Northeastern States During 1940

State	No. Technical Foremen and Checkers	Man Days Worked By Technical Foremen and Checkers	Cost		
			State	C.C.C.	Total
Maine	17	647½	-	$3,970.00	$3,970.00
N. H.	2	81	-	504.85	504.85
Vt.	4	183	-	881.29	881.29
Mass.	3	231¼	$740.74	468.87	1,209.61
R. I.	2	114	-	743.13	743.13
Conn.	9	566	421.65	3,839.99	4,261.64
N. Y.	27	1058½	772.95	5,391.99	6,164.94
Penna.	36	1784	-	11,807.10	11,807.10
Totals	100	4665¼	1,935.34	27,607.22	29,542.56

The costs of the technical foremen and checkers employed on Ribes eradication work under the C.C.C. Program are not charged against the project "Ribes Eradication". Their costs, while engaged on blister rust control work, were charged to the project "Eradication Assistants and Checkers". In most instances, the technical foremen directed the work of from three to five C.C.C. crews of six men each.

Nursery Sanitation - C.C.C. Program

C.C.C. crews were used to re-examine the environs of two state nurseries in Connecticut and Pennsylvania during 1940. The results of this special nursery sanitation work are summarized in the following table, while such activities under the C.C.C. Program from 1933 to 1940, inclusive, are shown in Table 29.

Table 28 - Summary of Nursery Sanitation Work Under C.C.C. Program in Northeastern States During 1940. (All Re-Eradication Work)

State	No. Nurseries Worked	Acreage Worked	Ribes Pulled		Total Man Days	Total Cost (All C.C.C.)	Per Acre		
			Wild	Cult.			Cost	Ribes	Man Days
Conn.	1	356	441	-	24	$48.00	.135	1.2	.07
Penna.	1	369	601	-	166	390.84	1.06	1.6	.45
Totals	2	725	1,042	-	190	$438.84	.605	1.4	.26

Basis of costs: See Page 40.

Table 29 - Summary of Nursery Sanitation Work Under C.C.C. Program in Northeastern States, 1933-1940, Inclusive

State	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Cost			for Acc	
			Wild	Cult.		State	C.C.C.	Total	Cost	Ribes
Maine	Re-Erad.	691	8	-	81	-	129.82	129.82	.188	.01
Vt.	Re-Erad.	700	1,500	-	174	417.90	108.00	525.90	.751	2.1
R. I.	Re-Erad.	3,508	23	10	46	-	151.13	151.13	.043	.007
Conn.	Initial	280	232	47	33	-	65.28	65.28	.233	0.8
	Re-Erad.	2,135	4,030	4	659	-	1185.68	1185.68	.555	1.9
	Total	2,415	4,262	51	692	-	1250.96	1250.96	.518	1.8
N. Y.	Re-Erad.	630	17,750	-	182	318.40	255.50	573.90	.911	28.2
Penna.	Re-Erad.	3,558	21,983	-	2433	-	4074.67	4074.67	1.15	6.2
Totals	Initial	280	232	47	33	-	65.28	65.28	.233	0.8
	Re-Erad.	11,222	45,294	14	3575	736.30	5904.80	6641.10	.592	4.0
	Total	11,502	45,526	61	3608	736.30	5970.08	6706.38	.583	4.0

Basis of costs: See Page 41.

Blister Rust Canker Elimination Work - C.C.C. Program

No blister rust canker elimination work was conducted under the C.C.C. Program in the Northeastern States during 1940.

The results of the canker elimination work performed by C.C.C. personnel on Acadia National Park, Maine and on publicly-owned white pine plantations in Pennsylvania since 1933 are summarized in Table 30.

Table 30 - Blister Rust Canker Elimination Work Under C.C.C. Program in Northeastern States During Period 1933-1940, Inclusive.

State	Year	Est. Number Pines Examined	No. Fatally Infected Pines Cut Down	No. Infected Pines From Which Cankers Removed	No. Cankers Removed		Total Man Days	Total Cost (All C.C.C.)
					Branch	Stem		
Maine (Acadia National Park)	1933	10,000	849	1,951	6,045	286	409	$920.40
	1934	23,625	145	581	1,675	66	159	515.25
	1935	3,000	325	1,737	7,802	671	352	552.30
	1936	16,100	1,341	3,192	3,983	1,436	1,000	1,500.00
	1938	5,136	236	1,129	1,927	176	155	354.95
	1939	400	61	289	622	56	102	276.35
	Totals	58,261	2,957	8,879	27,054	2,691	2,177	3,922.95
Penna.	1934	42,566	3,012	9,537	176,874	-	807	1,386.00
	1935	207,848	15,435	40,731	180,788	-	1,892	3,307.21
	1936	210,102	9,141	24,374	94,774	-	1,529	2,867.11
	1937	106,502	720	1,406	6,019	67	336	625.56
	Totals	567,018	28,308	76,048	458,455	67	4,564	8,206.88
Totals	1933	10,000	849	1,951	6,045	286	409	920.40
	1934	66,191	3,157	10,118	178,549	66	966	1,701.25
	1935	210,848	15,760	42,468	188,590	671	2,244	3,859.51
	1936	226,202	10,482	27,566	103,757	1,436	2,529	4,367.11
	1937	106,502	720	1,406	6,019	67	336	625.56
	1938	5,136	236	1,129	1,927	176	155	354.95
	1939	400	61	289	622	56	102	276.35
	Totals	625,279	31,265	84,927	485,509	2,758	6,741	12,125.93

Basis of costs: Includes wages of C.C.C. personnel assigned to canker elimination work figured at $1.00 per eight hour man day plus 35¢ per man day for subsistence in 1935; 40¢ in 1934; and 50¢ during the period 1935-1939, inclusive - cost of crew transportation and miscellaneous expenses for supplies and equipment.

Pine and Control Area Mapping - C.C.C. Program

Pennsylvania was the only state in this Region where C.C.C. personnel was available for pre-eradication survey work in 1940. The two C.C.C. blister rust checkers employed in that state spent a portion of their time from January to April and from October to December on the mapping project. From 3 to 6 C.C.C. enlisted men from 25 camps were assigned to such activities for a short period. The results of this 1940 mapping work under the C.C.C. Program in Pennsylvania were as follows:

Number towns where work performed ---------- 48
Acreage mapped ---------- 17,335
Miles control area boundaries painted in field ---------- 277
Total man days ---------- 1,100
Total cost (all C.C.C.) ---------- $2,715.93

Table 31 - Pine and Control Area Mapping Under C.C.C. Program in Northeastern States During Period 1933-1940, Inclusive

State	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Total Man Days	Cost		
					State	C.C.C.	Total
Maine	296,670	169,667	-	2,446	-	16,956.86	16,956.86
N. H.	81,096	2,740	-	3,963	-	11,168.98	11,168.98
Vt.	87,619	62,593	-	932	189.59	4,800.57	4,990.16
R. I.	106,224	-	-	985	-	7,675.26	7,675.26
Conn.	47,512	93,507	-	339	-	827.60	827.60
N.Y.	73,704	35,495	-	1,221	-	2,388.49	2,388.49
Penna.	299,729	-	2,503	27,952	-	100,554.07	100,554.07
Totals	992,554	364,002	2,503	37,838	189.59	144,371.83	144,561.42

Basis of costs: Includes actual salaries and transportation expenses of C.C.C. technical foremen and checkers assigned to mapping project - cost of enlisted mens' time figured on same basis as listed for Table 23 - cost of mapping supplies.

Table 32 - Total Expenditures, By Cooperating Agencies, Under C.C.C. Program in Northeastern States
1940

State	State Funds	C.C.C.	Total
Maine	-	$25,074.04	$25,074.04
N. H.	-	1,988.77	1,988.77
Vt.	-	5,851.21	5,851.21
Mass.	740.74	3,799.57	4,540.31
R. I.	10.94	4,705.31	4,716.25
Conn.	421.65	17,767.96	18,189.61
N. Y.	832.90	28,659.85	29,492.75
Penna.	-	75,432.70	75,432.70
Totals	2,006.23	163,279.41	165,285.64

1933-1940, Inclusive

State	State Funds	P.W.A.	E.R.A.	W.P.A.	C.C.C.	Totals
Maine	$135.00	-	-	-	$354,855.53	$354,990.53
N. H.	1,241.28	-	-	-	149,340.77	150,582.05
Vt.	1,548.49	-	85.50	-	94,685.85*	96,319.84
Mass.	2,460.13	-	-	948.45	64,276.25	67,684.83
R. I.	25.94	-	-	-	109,647.29	109,673.23
Conn.	4,771.05	244.36	1339.60	-	175,034.51**	181,389.52
N. Y.	63,801.67	-	-	300.80	756,678.10	820,780.57
N. J.	-	-	-	-	346.50	346.50
Penna.	2,056.24	-	-	-	853,505.63	855,561.87
Totals	76,039.80	244.36	1425.10	1249.25	2,558,370.43	2,637,328.94

* In addition, $203.33 C.C.C. funds were expended under the P.W.A. Program.

** An additional $218.40 C.C.C. funds were expended under the E.R.A. Program.

Table 33 - Total Cooperative Expenditures, By Projects, Under C.C.C. Program in Northeastern States During Period 1933-1940, Inclusive.

State	Period	Ribes Eradication	Eradication Assistants and Checkers	Nursery Sanitation	Treatment Diseased Pines	Field Data		Total
						Mapping	General	
	1940	21,104.04	3,970.00	-	-	-	-	25,074.04
Maine	1933-40	253,902.26	79,691.79	129.82	3,922.90	16,956.86	386.90	354,990.53
	1940	1,483.92	504.85	-	-	-	-	1,988.77
N.H.	1933-40	101,393.02	38,020.05	-	-	11,168.98	-	150,582.05
	1940	4,969.92	881.29	-	-	-	-	5,851.21
	1933-40	71,546.12	19,257.66	525.90	-	4,990.16	-	96,319.84
	1940	3,330.70	1,209.61	-	-	-	-	4,540.31
Mass.	1933-40	54,759.97	12,864.86	-	-	-	60.00	67,684.83
	1940	3,970.12	743.13	-	-	-	3.00	4,716.25
R.I.	1933-40	77,755.05	24,026.48	151.13	-	7,675.26	65.31	109,673.23
	1940	13,879.97	4,261.64	48.00	-	-	-	18,189.61
Conn.	1933-40	127,962.36	49,489.41	1,250.96	-	827.60	1858.69	181,389.52
	1940	23,327.81	6,164.94	-	-	-	-	29,492.75
N.Y.	1933-40	621,978.10	195,689.23	573.90	-	2,388.49	150.85	820,780.57
	1940	-	-	-	-	-	-	-
N.J.	1933-40	346.50	-	-	-	-	-	346.50
	1940	55,263.39	11,807.10	390.84	-	2,715.93	5,255.44	75,432.70
Penna.	1933-40	574,293.48	150,227.96	4,074.67	8,203.09	100,554.07	18,208.60	855,561.87
	1940	127,329.87	29,542.56	438.84	-	2,715.93	5,258.44	165,285.64
Totals	1933-40	1,883,937.36	569,267.44	6,706.38	12,125.99	144,561.42	20,730.35	2,637,328.94

BLISTER RUST CONTROL ACTIVITIES AND ACCOMPLISHMENTS UNDER THE WPA PROGRAM IN THE NORTHEASTERN STATES

Allotments

W.P.A. funds totalling $3,752,812.34 have been allocated to the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture for blister rust control activities in the nine Northeastern States during the period July 25, 1935 to December 31, 1940. Detailed information concerning the various allotments, by states, is given on Pages 82 to 84 . W.P.A. allotments to New Jersey were restricted to the fiscal years 1935 to 1937, inclusive, while no Federal Agency allotments were made to Connecticut after the fiscal year 1939. Projects were operated continuously in the other seven Northeastern States.

Purpose of Allotments

The specific objectives have been outlined as follows:

1. To protect our national resources of white pine from the blister rust by the systematic, thorough, and efficient elimination of Ribes from definite areas.

2. To employ in the locality of the work as many of the persons on public relief as may effectively be used.

3. To distribute opportunities for work as widely, geographically, and as equitably as may be practicable.

4. To aid in all possible ways the accomplishment of the other purposes of the Emergency Relief Appropriation Acts of 1935-1940, inclusive.

Economic and Social Value of Project

The white pine crop in the Northeastern States comprises over 7½ million acres and has a normal commercial value of $315,000,000. Millions of white pines are also being planted each year in connection with reforestation activities. The scenic, recreational, and water-shed protection value of this crop is likewise of tremendous importance.

Control activities under the W.P.A. Program during the period 1935-1940, inclusive, have played an important part in the protection of this valuable white pine crop from blister rust, since 3,115,338 acres (containing 1,344,717 acres of white pine) have been cleared of Ribes bushes, the alternate host of the disease. This W.P.A. work resulted in the establishment of initial control on hundreds of thousands of acres where such work was urgent, but not previously possible due to lack of funds. The maintenance of protection on areas initially worked several years ago has also been materially advanced by the W.P.A. Program.

The expenditure to December 31, 1940 of $3,648,253.06 W.P.A. money (exclusive of administrative funds) on blister rust control in the rural portions of the Northeastern States has given 11,728 security-wage workers 6,799,002 man hours of useful, self-respecting employment, directly benefitting persons who would otherwise have been on town relief, especially in communities where there was a lack of other projects of a permanent public benefit. Estimating that each of these 11,728 W.P.A. employees had three dependents, a total of 46,912 individuals were at some time during the program being fed, sheltered and clothed from wages earned in connection with this work.

The blister rust control project has been especially well adapted to the W.P.A. Program, since the Ribes eradication work requires chiefly manual labor and only a relatively small expenditure for equipment. Expenditures for wages and salaries have constituted 94.3 percent of the entire cost of the program.

Nearly 12,000 men have received training in Ribes eradication work, and many of them will be available for similar work in the future. The training should also enable many of these men to maintain control of blister rust on their own properties. Most important of all, this work has demonstrated that the Bureau requires of its personnel full attention to the duties at hand. The experience these employees gained on the blister rust control project has given them a better conception of public work in general, and the importance of conservation of natural resources.

Responsibilities and Direction of Work

W.P.A. funds for blister rust control have been specifically allocated to the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture for expenditure by the Division of Plant Disease Control in accordance with W.P.A. regulations.

The Senior Pathologist of the Cambridge, Mass. Regional Office of the Bureau was made "Project Manager" for the W.P.A. blister rust control program in the Northeastern States, and was delegated the funds allotted to the respective nine states in the Region. He was also given authority to obtain services and supplies and to incur expenditures under each state allotment. Letters of authorization have been issued by the Bureau to the project manager and each state leader, who in turn have issued monthly sub-letters of authority, where necessary, to employees working under their direction. Labor requisitions have been submitted to the respective State W.P.A. offices which make all assignments. Practically all administrative office work has been handled by the Regional Office including purchases, the preparation of all payrolls, and the auditing of all other vouchers and invoices which are transmitted to the Treasury Accounts Office at Boston, Mass. for payment.

The W.P.A. blister rust control work in each state is performed under the general plan embodied in the Memorandum of Understanding existing between the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture and cooperating States, and is fitted in with other control activities in the states so as to make a unified, coordinated work program. The Bureau, however, carries direct responsibility for both the fiscal and technical phases of the work. The state forester or other collaborator in the state is consulted as to policies and is kept fully advised at all times. The state official administering the state plant pest laws enforces such state regulations as may be available for the effective prosecution of blister rust control work, and deputizes the cooperative employees to permit the destruction of such pine and Ribes as may be necessary and as provided by state laws. Federal money cannot be used to pay compensation for plants destroyed.

Representatives of the respective State W.P.A. Administrators have made regular quarterly inspections of our blister rust control projects during the past couple of years. These contacts have been mutually beneficial and have given all concerned a better understanding of the problems involved in the prosecution of the project.

Field Supervision

The successful results accomplished under the W.P.A. Program are primarily due to the availability of a trained force of state and federally appointed district leaders and supervisors to direct the project. These leaders were accustomed to supervising large groups of men and had little difficulty in adapting themselves to the W.P.A. Program. Most of the present supervisory force of 8 state leaders and 27 district leaders are under Civil Service and have had from 10-23 years experience on blister rust control work. W.P.A. funds were used to hire supervisors only during 1935 and 1936 when the employment of several thousand laborers made it necessary to provide our regular district leaders with assistants. However, several of the states have furnished experienced supervisors to assist in the supervision of the W.P.A. personnel each year since 1936.

Qualifications Established for Labor

In submitting requisitions for WPA labor in the field, the following qualifications were established:

1. Must be physically able to work all day.
2. No serious defects of eyesight.
3. Stable personality, good habits, good conduct, thoroughness, industriousness, reliability and willingness.

No restrictions were placed on the age of the workers, except that WPA regulations prevented the employment of any persons under 18 years of age. Regardless of relief status or any other consideration, WPA laborers were released when unable or unwilling to give full effort and value. In the field, only two classes of labor were used during the Ribes eradication seasons - unskilled and crew foremen. It is estimated that at least 50% of the workers who have been assigned to the project since 1936 have had previous experience.

Source of Labor

Up to August 13, 1936, all labor was secured direct from the local offices of the National Reemployment Service. Under this arrangement, labor assignments were made with a minimum of delay. Since that time, the desired W.P.A. labor has been obtained through the district or state W.P.A. offices. This procedure has materially delayed the assignment of workers and seriously handicapped the control work in some sections of the Northeast. Considerable difficulty was experienced during 1939 and 1940 in obtaining the desired number of W.P.A. laborers, and in many instances, assignments were not made for a week or more after the reporting date on the requisitions.

The 18 months continuous employment provision of the 1939 and 1940 Emergency Relief Acts resulted in the release of many experienced workers at times when their services were urgently needed. Considerable difficulty was also experienced in obtaining satisfactory replacements for the W.P.A. clerical force at the Regional Office.

The required ratio between relief and non-relief workers has been consistently maintained in each state, except during the summer of 1936 when special exemptions were obtained in Maine, New Hampshire, and Vermont.

Personnel

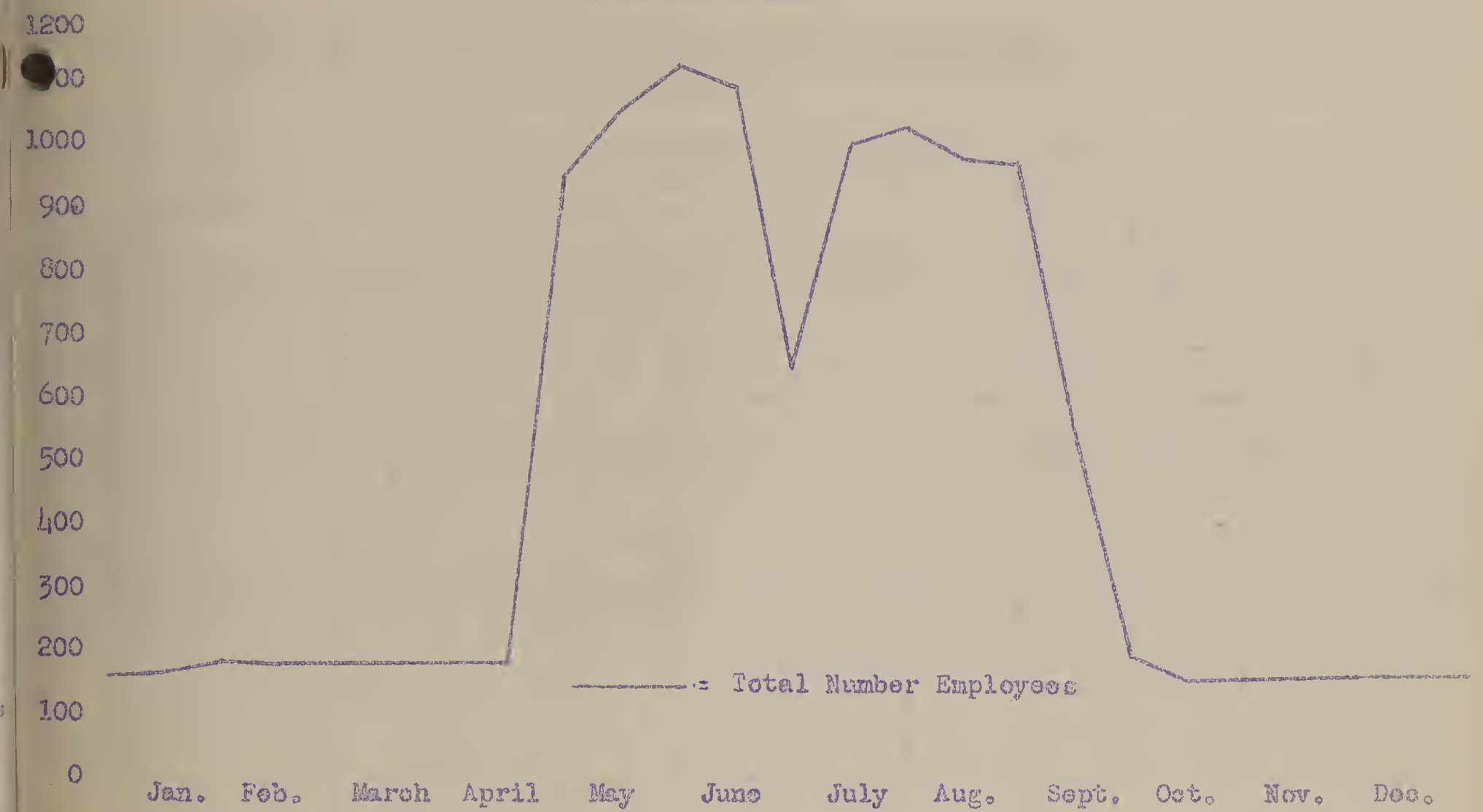
During the period January 1 to April 30, 1940, an average of 177 W.P.A. employees were assigned to blister rust control activities in the Northeastern States, most of these workers being used on pine and control area mapping. From May 1 to September 30, 1940, an average of 940 employees were engaged on Ribes eradication work. The force was reduced to an average of 160 persons during the last three months of the calendar year, the majority of these workers being assigned to pre-eradication surveys.

The following graph indicates the W.P.A. personnel assigned to blister rust control work in the Northeastern States, by months, during the calendar year 1940, and the maximum and minimum number employed each year during the period 1935 to 1940, inclusive.

Tables 34 to 36, inclusive, and the chart on Page 58 give detailed information on W.P.A. employment, man month and man year costs, and the ratio between relief and non-relief employment during the calendar year 1940 and the period 1935-1940, inclusive.

W.P.A. PERSONNEL ON BLISTER RUST CONTROL IN NORTHEASTERN STATES

Calendar Year 1940



Calendar Years 1935 to 1940, Inclusive.

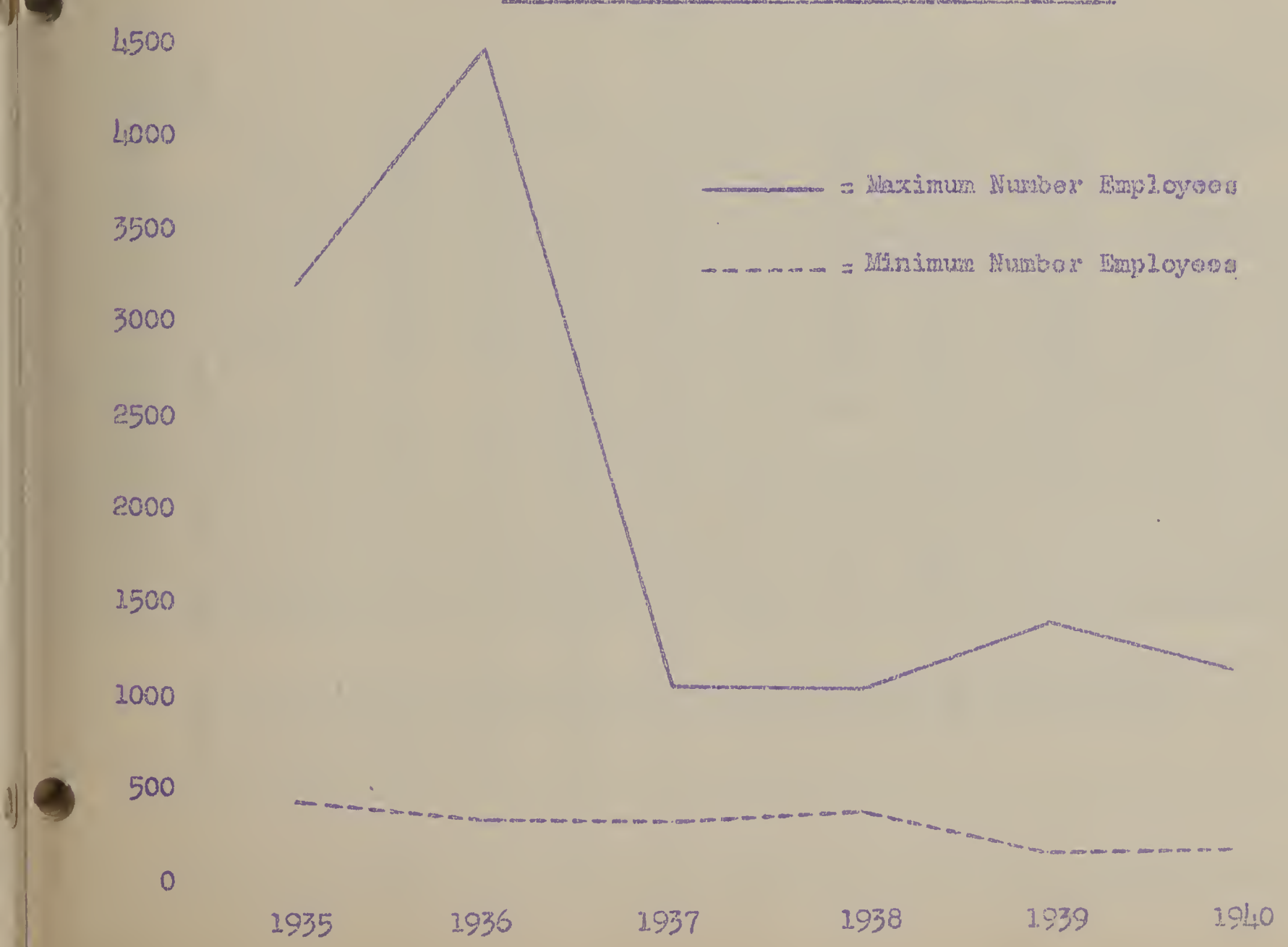


Table 34 - Employment on Blister Rust Control Under W.P.A. Program
Calendar Year 1940

State	Security Wage Workers						Appointees			All Employees		
	Relief			Non-Relief								
	Man Hours	Man Mos.	Man Yrs.	Man Hours	Man Mos.	Man Yrs.	Man Hours	Man Mos.	Man Yrs.	Man Hours	Man Mos.	Man Yrs.
Maine	117,310	902.4	75.2	-	-	-	1,728	9.0	0.7	119,038	911.4	75.9
N. H.	107,810	829.3	69.1	-	-	-	5,069	26.4	2.2	112,879	855.7	71.3
Vt.	75,354	579.6	48.3	-	-	-	2,400	12.5	1.0	77,754	592.1	49.3
Mass.	90,826	698.7	58.2	-	-	-	768	4.0	0.3	91,594	702.7	58.5
R. I.	8,651	66.5	5.6	-	-	-	-	-	-	8,651	66.5	5.6
N. Y.	192,535	1,481.0	123.4	-	-	-	9,293	48.4	4.0	201,828	1529.4	127.4
Conn.	72,412	557.0	46.4	-	-	-	2,976	15.5	1.3	75,388	572.5	47.7
Sub-Totals	664,898	5,114.5	426.2	-	-	-	22,234	115.8	9.5	687,132	5230.3	435.7
Admin.	-	-	-	325	2.5	0.2	9,062	47.2	3.9	9,387	49.7	4.1
Totals	664,898	5,114.5	426.2	325	2.5	0.2	31,296	163.0	13.4	696,519	5280.0	439.8

July 29, 1935 to December 31, 1940

State	Security Wage Workers						Appointees*			All Employees		
	Relief			Non-Relief								
	Man Hours	Man Mos.	Man Yrs.	Man Hours	Man Mos.	Man Yrs.	Man Hours	Man Mos.	Man Yrs.	Man Hours	Man Mos.	M Y
Maine	1,121,034	8,695.9	724.7	55,891	435.5	36.3	51,821	269.9	22.5	1,228,746	9,401.3	78
N. H.	1,035,603	8,280.4	690.0	116,540	915.6	76.3	60,960	317.5	26.5	1,213,103	9,513.5	79
Vt.	771,941	5,814.3	484.5	41,113	319.3	26.6	38,592	201.0	16.7	851,646	6,334.6	52
Mass.	726,827	5,649.3	470.8	9,077	70.7	5.9	44,218	230.3	19.2	780,122	5,950.3	49
R. I.	82,188	648.0	54.0	3,639	28.4	2.4	2,976	15.5	1.2	88,803	691.9	5
Conn.	145,253	1,147.4	95.6	1,830	14.2	1.2	8,487	44.2	3.7	155,570	1,205.8	10
N. Y.	1,863,944	14,487.5	1207.3	38,600	300.5	25.0	106,196	553.1	46.1	2,008,740	15,341.1	127
N. J.	10,870	86.7	7.2	-	-	-	2,285	11.9	1.0	13,155	98.6	
Pa.	751,823	6,470.9	559.2	22,829	190.2	15.8	47,808	249.0	20.8	822,460	6,910.1	57
Sub-Totals	6,509,483	51,280.4	4273.3	289,519	2274.4	189.5	363,343	1892.4	157.7	7,162,345	55,447.2	462
Admin.	-	-	-	325	2.5	0.2	23,269	121.2	10.1	23,594	123.7	1
Totals	6,509,483	51,280.4	4273.3	289,844	2276.9	189.7	386,612	2013.6	167.8	7,185,939	55,570.9	463

* Includes time paid supervisors during 1935 and 1936 for all accumulated leave taken after completion of their field services.

Table 35 - Peak Employment, Man Year, and Man Month Cost of Blister Rust Control Work Under W.P.A. Program in Northeastern States.

Calendar Year 1940

State	Peak Employment		Man Year Cost		Man Month Cost		
	No. Men	Period	Over-All (1)	Net (2)	Over All	Net	Operating Cost
Maine	195	6/7-6/20 40	$742.50	$749.41	$61.83	$62.45	$5.68
N. H.	197	6/17-6/30/40	805.03	830.66	67.08	69.21	5.55
Vt.	131	5/1-5/15/40	736.90	752.16	61.36	62.68	6.10*
Mass.	143	6/1-6/15/40	777.28	781.28	64.71	65.08	5.39
R. I.	18	9/7-9/20/40	722.53	722.53	60.84	60.84	1.23
N. Y.	340	6/1-6/15/40	825.13	851.88	68.73	70.98	4.01
Penna.	122	6/1-6/15/40	741.49	762.26	61.78	63.50	5.99
Sub-Totals	-	-	780.56	797.96	65.02	66.50	5.15
Admin.	-	-	2566.79	-	211.75	-	6.87
Totals	-	-	797.21	822.65	66.40	68.55	5.17

* On a fiscal year basis, this average will not exceed the $6.00 limitation.

July 29, 1935 to December 31, 1940

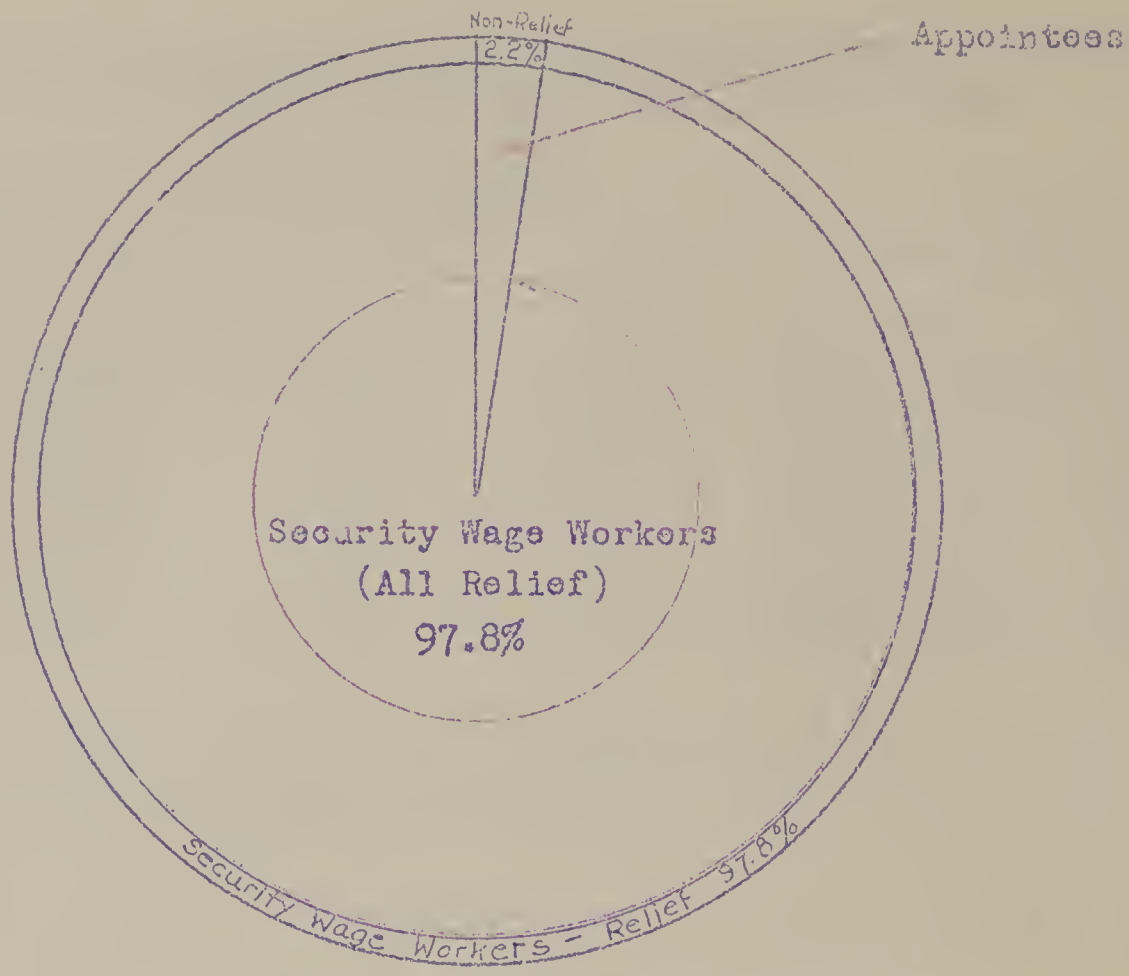
State	Peak Employment		Man Year Cost		Man Month Cost		
	No. Men	Period	Over-All (1)	Net (2)	Over-All	Net	Operating Cost
Maine	741	8/16-8/31/36	769.38	792.64	64.16	66.06	4.98
N. H.	905	6/1-6/15-36	747.59	773.44	62.30	64.45	3.70
Vt.	632	8/16-8/31/36	701.99	724.93	58.49	60.41	3.89
Mass.	327	6/1-6/15/36	905.36	941.84	75.45	78.49	4.98
R. I.	64	6/1-6/15/36	761.75	777.96	63.42	64.87	0.98
Conn.	115	9/1-9/15/35	827.40	859.03	68.96	71.59	5.85
N. Y.	1,184	6/1-6/15/36	839.60	871.01	69.97	72.58	2.41
N. J.	14	8/16-8/31/36	890.65	1014.36	74.07	84.24	3.17
Penna.	608	7/16-7/31/36	738.46	766.13	61.53	63.83	3.73
Sub-Totals	-	-	789.58	817.48	65.80	68.12	3.73
Admin.	-	-	2,986.78	-	248.70	-	49.63
Totals	-	-	794.47	824.34	66.20	68.69	3.84

(1) Based on total expenditures divided by number of security-wage and appointee man years.

(2) Based on total expenditures divided by number of security-wage man years.

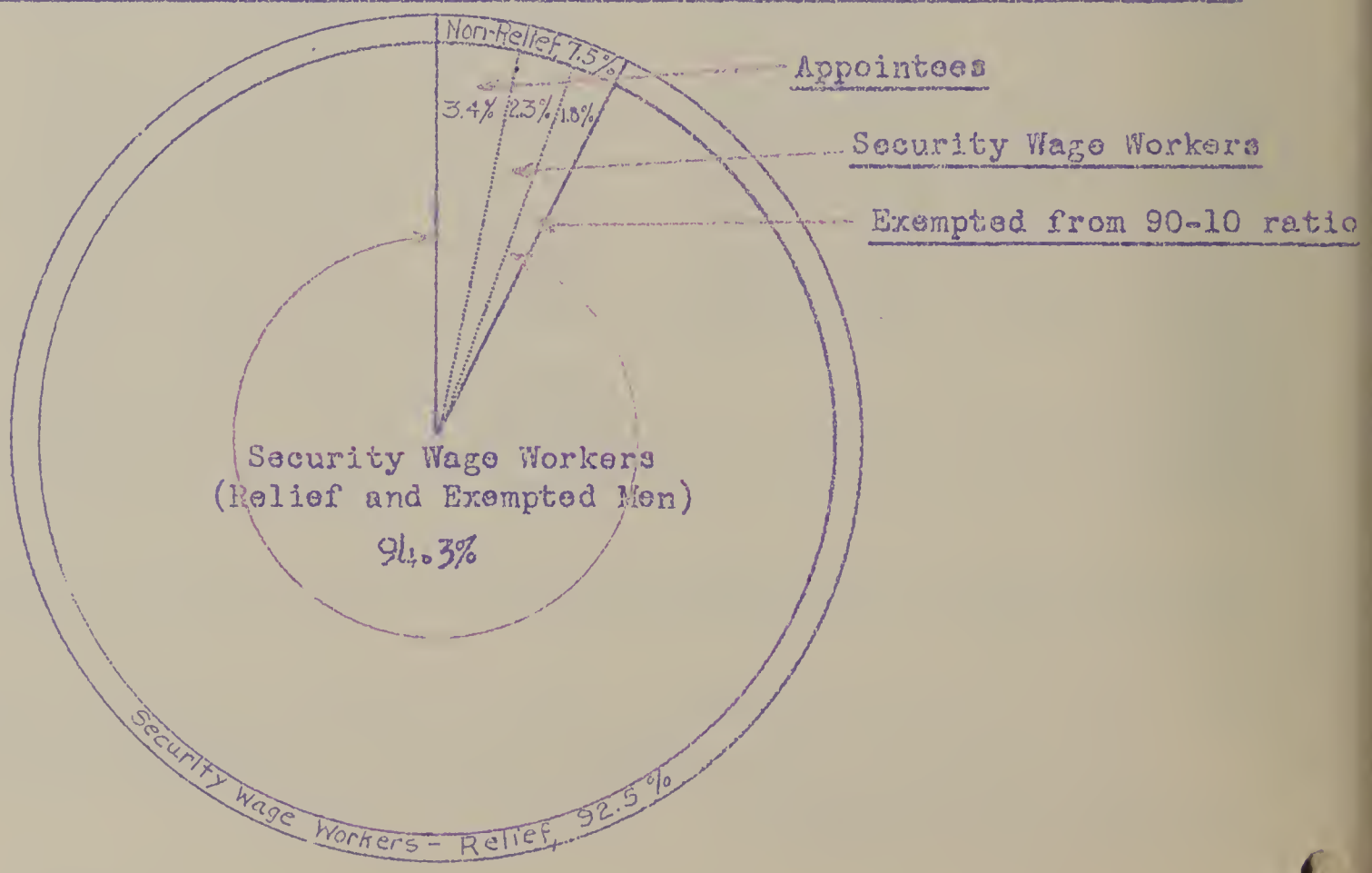
Data for Massachusetts include Cambridge, Massachusetts regional office employment and expenditures.

Personnel by Employment Classes on Blister Rust Control
WPA Program in Northeastern States - Calendar Year 1940



Total Man Months of Employment - 5,230.3

Personnel by Employment Classes on Blister Rust Control
WPA Program in Northeastern States July 29, 1935 - December 31, 1940, Inclusive.



Total Man Months of Employment - 55,447.2
(Includes 406 men exempted from 90-10 ratio in three states during 1936)

Table 36 - Man Months of Employment by Relief and Non-Relief Employees and the Status in Maintaining Required Ratio.

Calendar Year 1940

State	Total Man Months Employment		Man Months Surplus or Deficit Over Required Ratio
	Relief	Non-Relief	
Maine	902.4	9.0	+38.5
N. H.	829.3	26.4	+17.2
Vt.	579.6	12.5	+18.0
Mass.	698.7	4.0	+32.8
R. I.	66.5	-	+ 3.5
N. Y.	1,481.0	48.4	+29.5
Penna.	557.0	15.5	+13.8
Totals	5,114.5	115.8	+ 153.3

July 29, 1935 to December 31, 1940

State	Total Man Months Employment		Man Months Surplus or Deficit Over Required Ratio
	Relief	Non-Relief	
Maine	8,695.9	705.4	+ 31.3
N. H.	8,280.4	1,233.1	- 548.9
Vt.	5,814.3	520.3	- 34.9
Mass.	5,649.3	301.0	+ 139.5
R. I.	648.0	43.9	+ 13.7
Conn.	1,147.4	58.4	+ 48.7
N. Y.	14,487.5	853.6	+ 376.8
N. J.	86.7	11.9	- 3.8
Penna.	6,470.9	439.2	+ 59.7
Totals	51,280.4	4,166.8	+ 82.1

Excluding the 1,020.9 man months worked by 406 non-relief laborers exempted from the 90-10 ratio during the period June 1 to August 28, 1936, there actually has been a surplus of 1103 man months of relief employment over the required ratio for the entire program.

Hours of Work and Wage Scales

The monthly hours of work and W.P.A. wage scales which were in force on December 31, 1939 (see Table 37) for our Federal Agency projects in the Northeastern States were continued until August 23, 1940 in all states, except Maine and New Hampshire. In the latter state, the hours of work and wage rates were changed to the fiscal month basis effective January 1, 1940 by order of the State W.P.A. Administrator, while a similar change was made in Maine, effective March 1, 1940. The fiscal month basis was adopted in the other five states beginning August 24, 1940.

Table 37 - Approved W.P.A. Wage Scales For Federal Blister Rust Control Work in Northeastern States During Calendar Year 1940

A. - Calendar Month Basis

Counties in Which 1930 Population of Largest Municipality Was	Maximum Hours Per Month	Monthly Wage Rates		
		Unskilled A	Inter-mediate	Skilled
Over 100,000	130	$57.20	$68.90	$89.70
25,000 to 100,000	130	52.00	62.40	81.90
5,000 to 25,000	130	48.10	57.20	74.10
Under 5,000	130	42.90	52.00	67.60

County rates were applicable in all states except New York, where the State W.P.A. Administrator approved state-wide rates for our blister rust control project which were the same as those listed above for counties where the 1930 population of the largest municipality was over 100,000.

The above rates were effective in Vermont, Massachusetts, Rhode Island, New York, and Pennsylvania from January 1 to August 23, 1940; and in Maine from January 1 to February 28, 1940.

B - Fiscal Month Basis

Counties in Which 1930 Population of Largest Municipality Was	Maximum Hours Per Month	Monthly Wage Rates		
		Unskilled A	Inter-mediate	Skilled
Over 100,000	120	$52.80	$63.60	$82.80
25,000 to 100,000	120	48.00	57.60	75.60
5,000 to 25,000	120	44.40	52.80	68.40
Under 5,000	120	39.60	48.00	62.40

The above rates were applicable in New Hampshire during the entire calendar year, and in Maine from March 1 to December 31, 1940. In the other Northeastern States, these fiscal month rates became effective August 24, 1940.

County rates applied in all states except New York where state-wide rates were approved by the W.P.A. Administrator. The New York rates were the same as those shown above for counties where the 1930 population of the largest municipality was over 100,000.

Making Up Of Lost Time by W.P.A. Labor

Since the issuance of W.P.A. Administrative Order No. 56, dated May 18, 1937, W.P.A. employees have been given every reasonable opportunity to make up allowable lost time. Regulations in effect during 1940 provided that in no case should any project wage employee be permitted to accumulate allowable lost time in excess of 65 hours.

Transportation

All of the district leaders and several of the state leaders are provided with Government-owned cars for use in connection with their supervisory activities. Most of these automobiles are of the coach type and were purchased with regular funds. However, 18 sedan delivery trucks were bought from W.P.A. money during 1935 and 1939 and assigned to some of the district leaders whose cars where unserviceable for long trips. Instead of turning in their old machines, the cars have been used for transporting W.P.A. crews. During 1937 arrangements were made to obtain 16 half-ton Dodge trucks, with pick-up bodies, from the Bureau of Entomology and Plant Quarantine Office at Greenfield, Mass. A total of 26 Government cars were available for transporting W.P.A. employees assigned to blister rust control work in the Northeastern States during 1940.

All W.P.A. workers on our project travel to and from work on their own time. Instructions have been issued to the supervisory personnel to provide transportation where the daily cost to the worker exceeded car fare, normally 20 cents per day. In many instances, especially in Vermont and Massachusetts, towns have provided transportation for our W.P.A. crews. During 1940, whenever transportation was necessary at Government expense and where no federal cars were available, security wage workers were authorized to use their privately-owned automobiles at the rate of 4 cents per mile.

Safety Measures

Copies of all W.P.A. instructions concerning safety regulations have been furnished the supervisory personnel in the Northeastern States and the field men instructed accordingly. Each crew, consisting of 3 to 6 men, is provided with a first-aid kit and the foreman is responsible for applying any first-aid measures that may be required. Considerable confusion existed as to the application of the automobile regulations and the inspection of the machines by W.P.A. officials. Only a few inspections have been made. Red flags and flares have also been provided for all cars transporting W.P.A. workers on our project. Experienced drivers have been selected to operate the Government cars assigned to the project, and all of these drivers have been furnished with Government operators' licenses.

Injuries and Compensation to W.P.A. Workers

During the period July 29, 1935 to December 31, 1940, a total of 11,728 security-wage workers have been employed for 6,799,327 man hours on the W.P.A. blister rust control activities in the Northeastern States. In spite of the large force of men employed, only 640 alleged injuries were reported up to December 31, 1940. The following summary shows a classification of the alleged injuries sustained during the entire program.

Table 38 - Classification of Alleged Injuries Sustained on W.P.A. Blister Rust Control Project in Northeastern States
(By States)

State	No. Alleged Injuries, By Classes															
	Poison Oak or Ivy		Infections		Blood Poisoning		Fractures		Sprains Cuts & Bruises		Organic		Misc.		Total	
	1940	1935 to 1940	1940	1935 to 1940	1940	1935 to 1940	1940	1935 to 1940	1940	1935 to 1940	1940	1935 to 1940	1940	1935 to 1940	1940	1935 to 1940
Me.	1	22	-	10	1	2	-	-	3	12	2	9	-	1	7	56
N. H.	1	16	-	7	-	-	-	1	1	34	-	12	-	4	2	74
Vt.	8	60	-	27	-	2	-	4	4	49	2	35	-	9	14	186
Mass.	3	36	3	10	-	-	-	2	2	27	2	17	2	3	12	95
R. I.	-	3	-	-	-	-	-	1	-	2	-	1	-	-	-	7
Conn.	-	2	-	2	-	-	-	-	-	-	-	2	-	-	-	6
N. Y.	6	43	1	15	-	1	-	1	6	46	1	25	2	13	16	144
N. J.	-	1	-	-	-	-	-	-	-	1	-	1	-	-	-	2
Pa.	4	25	1	8	-	-	2	4	2	22	-	9	-	1	9	69
Totals	23	208	5	79	1	5	2	13	18	193	7	111	4	31	60	640
%Total	38.3	32.5	8.3	12.3	1.7	0.8	3.3	2.0	30.0	30.2	11.7	17.3	6.7	4.9	100.0	100.0

(By Years)

Year	Poison Oak or Ivy	Infections	Blood Poisoning	Fracture	Sprains Cuts & Bruises	Organic	Misc.	Total
1935	20	14	2	3	31	11	10	91
1936	92	27	1	6	81	54	12	273
1937	28	11	1	1	16	12	1	70
1938	29	8	-	-	19	12	2	70
1939	16	14	-	1	28	15	2	76
1940	23	5	1	2	18	7	4	60
Totals	208	79	5	13	130	111	31	640

On July 25, 1940, one of our W.P.A. laborers in Steuben County, N. Y. was killed by lightning while on official duty. Several other members of the crew were stunned by the bolt, but escaped injury. The men were on route from the woods to a road where their automobile was parked. The father of this fatally injured employee has been awarded compensation benefits for a period of 8 years beginning July 24, 1940. One other death resulting from a traumatic injury occurred in New York during 1936. In this instance, meningitis resulted from a twig piercing the ear of the employee,

Another W.P.A. employee in New York had an arm amputated during 1938 after being treated since August, 1936 for infection which developed from a bee sting on the right hand. This man was awarded compensation benefits to February 17, 194

As indicated in Table 40, nearly one third of the total injuries to December 31, 1940 were due to ivy or oak poisoning, while 30% were sprains, cuts, and bruises. The majority of the 111 organic injuries were to the eyes, but there was no case where the sight was lost. Practically all of these eye injuries were caused by twigs of trees. Thirteen cases of fracture have been reported including one instance where an employee's leg was broken as a result of an automobile accident. Only one other minor auto accident involving a W.P.A. employee has been reported for the duration of the program.

Table 39 - Number of Accidents Per 100 W.P.A. Employees* And Compensation Payments Made to Such Employees Injured on Blister Rust Control Work in Northeastern States

(Summary of payments compiled from reports received from Compensation Commission)

1940

State	Total No. Men* Employed	Total Man Hours Employment*	Total No. Alleged Injuries	No. Injuries Per 100 Employees	No. Men Paid Compensation	Total Amount Paid	Average Amount Paid Per Case
Maine	302	117,310	7	2.3	4	$33.66	$8.41
N. H.	243	107,810	2	0.8	-	-	-
Vt.	189	75,354	14	7.4	3	411.76	137.25
Mass.	171	90,826	12	7.0	-	-	-
R. I.	25	8,651	-	-	-	-	-
N.Y.	399	192,535	16	4.0	6	693.33	115.56
Penna.	170	72,412	9	5.3	2	118.33	59.17
Totals	1499	664,898	60	4.0	15	1257.08	83.81

July 29, 1935 to December 31, 1940

Maine	1,991	1,176,925	56	2.8	15	$109.88	$7.33
N. H.	2,082	1,152,143	74	3.6	12	88.19	7.35
Vt.	1,662	813,054	186	11.2	39	1,037.25	26.60
Mass.	1,084	735,904	95	8.9	7	565.50	78.57
R.I.	143	85,827	7	4.9	1	295.00	295.00
Conn.	297	147,083	6	2.0	1	6.67	6.67
N.Y.	2,939	1,902,544	144	4.9	34	2,795.48	82.22
N.J.	29	10,870	3	10.3	0	0	-
Penna.	1,521	774,652	69	4.5	6	533.33	88.89
Totals	11,728	6,799,002	640	5.5	114	5,431.30	47.64

* Security Wage workers only.

1940
The compensation payments in Vermont included $400.00 paid to one employee in connect with an injury sustained in 1939, while 1940 total for New York includes $600. paid to one employee who was injured in 1936 and awarded compensation benefits to February 17, 1943.

No report has been received from the Compensation Commission as to the cost of medical

Activities of the Regional Office - Cambridge, Massachusetts
(Especially as related to the W.P.A. Program)

Duties

The Regional Office of the Bureau of Entomology and Plant Quarantine at Cambridge, Mass. is responsible for the general supervision of all blister rust control activities in the nine Northeastern States. Practically all office work in connection with the administration of control activities under the W.P.A. Program, which began July 29, 1935, has been handled by the Regional Office. This office work has included the following items: - preparation of project applications, budgets, plans and some contracts; preparation of payrolls for a maximum of 4,457 employees; auditing of all expense accounts and 10¾ vouchers or invoices for purchases or other services; purchase of supplies and equipment for entire region or arranging for such purchases through the local Procurement Office; maintenance of property records; administrative record work and correspondence in connection with compensation cases; issuance of instructions to field personnel; and preparation of news items and weekly, semi-monthly, monthly, fiscal and calendar year reports covering all phases of control activities.

In addition to their supervisory activities, employees of the Regional Office have conducted numerous special investigations, in cooperation with the field personnel, to determine pine infection conditions, effectiveness of blister rust control, efficiency of Ribes eradication, improvements in control methods, etc.

Personnel

Prior to the advent of the emergency programs, the personnel of the Regional Office was limited to the senior pathologist, an assistant, and a secretary-stenographer. A chief clerk was added to the force just prior to the start of the W.P.A. activities in July 1935, and two additional field assistants have been employed continuously since the summer of 1935. One or two temporary appointees have also been used during the summer months each year to assist on checking work. The clerical force at the Regional Office since the W.P.A. Program has been in operation has consisted of from 6 to 22 workers, all of these employees being taken from relief rolls. An average of 7 clerks were employed during 1940.

Payroll Procedure

Each W.P.A. foreman is responsible for recording the daily working time for employees under his direct supervision on special semi-monthly time sheets, which are prepared in triplicate. An excellent new printed form (E. Q. 205) was made available in July, 1940 by the Bureau of Entomology and Plant Quarantine. At the end of each semi-monthly period, the completed time sheet is certified by the W.P.A. foreman and forwarded to the district leader. The latter checks the data and certifies as to its correctness before transmitting the original copy to the Cambridge Office. The time sheets are also audited at this office before the payrolls are prepared and forwarded to the Treasury Accounts Office at Boston, Mass. for payment. Usually the payrolls are completed the same day the time sheets are received.

During the calendar year 1940, a total of 1,026 W.P.A. payrolls were prepared at the Cambridge Office, while the total for the period July 29, 1935 to December 31, 1940 was 7,667. The intervals between the dates the payrolls were submitted to the Treasury Accounts Office and the dates the checks were issued are shown in Table 40.

Table 40 - Tabulation Showing Time Involved from Date Payroll Vouchers Transmitted To Treasury Accounts Office to Date Checks Were Issued

Days Involved	Number of Vouchers		Percent	
	Calendar Year 1940	July 29, 1935 to Dec. 31, 1940	Calendar Year 1940	July 29, 1935 to Dec. 31, 1940
1	51	1,207	5.0	15.7
2	413	1,953	40.3	25.5
3	307	1,777	29.9	23.2
4	189	1,261	18.4	16.4
5	25	660	2.4	8.6
6	32	419	3.1	5.5
7	7	239	0.7	3.1
8	1	103	0.1	1.3
9	1	26	0.1	0.3
10	0	9	-	0.1
11-20	0	13	-	0.3
Total	1,026	7,667	100.0	100.0

Since April 1, 1938, all checks have been sent direct to the employees by the Treasury Department. A few checks were lost during the period 1935-1938, but only one check has been reported lost during the calendar years 1939 and 1940.

Payroll Encumbrances

During the period July 29, 1935 to January 31, 1936, the Treasury Accounts Office required the establishment of an advance encumbrance for each payroll. This method entailed a large amount of clerical work. Fortunately, the system was changed on February 1, 1936 and since that time we have been permitted to set up advance encumbrances covering the total estimated amount to be obligated by each official project for each payroll period. Prompt action is also taken by the Treasury Department in cancelling unobligated payroll encumbrances for which Forms A-5A are issued by our office.

Procurement Procedure

On January 26, 1939, the Procurement Division of the Treasury Department authorized the senior pathologist and his assistant to act as procurement representatives in making purchases of equipment, supplies, and materials required for immediate official use where the amount does not exceed $50.00. This authority has been used to advantage, but whenever practicable requisitions have been submitted to the Procurement Division covering purchases for which immediate delivery was not essential.

Blanket encumbrances for each state-wide project are set up through the use of Treasury Form A-6 to cover purchases made without reference to the Procurement Division. Purchase orders are prepared at the Regional Office and the invoices covering such purchases are submitted to this office by the vendors for transmittal to the Procurement Division along with copies of the purchase orders and receiving and inspection reports. The Procurement Division prepares all 1034 vouchers for these purchases and forwards the accounts to the Treasury Accounts Office for payment. Copies of these paid vouchers, as well as those for purchases made by the Procurement Division, are supplied our office by the Treasury Department.

In cases of emergency, the blister rust control leaders are permitted to make purchases of small supplies and equipment in the field and include such items in their monthly expense account - Form 1012.

Payment of Accounts

Excellent service has been rendered by the Treasury Department in the auditing and payment of 1012 vouchers. However, since the Procurement Division assumed responsibility for preparing all 1034 vouchers in January 1939, there has been considerable delay in payment of such vouchers resulting in several complaints by the vendors. During recent months, payments in most instances have been made more promptly, as indicated by the following summary covering all 1012 vouchers and other invoices transmitted during the calendar year 1940.

Table 41 - Tabulation Showing Time Involved From Date 1012 Vouchers and Other Invoices Transmitted to Treasury Department To Date Payment Made

	Total Number During 1940		Percent of Total	
Days Involved	1012 Vouchers	Other Invoices	1012 Vouchers	Other Invoices
1-10	640	305	97.0	13.0
11-20	9	936	1.4	39.7
21-30	0	611	-	25.9
31-40	5	194	0.7	8.2
41-50	0	164	-	7.0
51-60	0	66	-	2.8
Over 60	6	81	0.9	3.4
Total	660	2,357	100.0	100.0

Accomplishments in Blister Rust Control Under the W.P.A. Program in The Northeastern States

Ribes Eradication Work During 1940

Ribes eradication was the major field activity performed on the blister rust control project under the W.P.A. Program. Such work was conducted in 245 townships in 60 counties of the Northeastern States during the period May to September, 1940. A total of 402,276 acres, practically all on individually-owned lands, was cleared of 7,354,404 wild Ribes and 6,103 cultivated bushes as a result of 66,163 man days of work during the 1940 season.

Six-man crews, each consisting of five unskilled laborers and a foreman, were used on the 1940 W.P.A. Ribes eradication work. Practically all of the areas were systematically examined by crews in strip formation, as personnel problems and funds available did not permit the employment of scouts on this work. This procedure resulted in the destruction of numerous Ribes concentrations, but was a factor in restricting the amount of acreage examined.

Table 42 - Distribution of Work and W.P.A. Personnel Employed on Ribes Eradication Work in Northeastern States - 1940

State	No. Counties in Which Work Performed	No. Towns Where Work Performed	No. Security Wage Workers	
			Maximum*	Average**
Maine	12	44	195	185
N. H.	8	31	192	141
Vt.	7	10	126	96
Mass.	4	20	135	112
R. I.	2	2	18	15
N. Y.	20	92	331	267
Penna.	7	46	119	100
Totals	60	245	1,116	915

* Maximum number employed during a single pay-roll period.
** Average number employed during period May 1 to September 20, 1940

Table 43 - Ribes Eradication Work Performed Under W.P.A. Program in Northeastern States During 1940

(Excludes nursery sanitation and cultivated black currant elimination)

State	Type of Erad.	Acreage		No. Ribes Pulled		Total Man Days	Cost				Per Acre		
		Total Worked	Pine Protected	Wild	Cult		Local Coop.	State	W.P.A.	Total	Cost	Ribes	Man Days
Maine	Initial	29,196	9,279	537,624	351	4,835	619.63	-	16,105.86	16,725.49	.573	18.4	.17
	Re-Erad.	44,372	17,255	651,956	346	8,259	2,373.09	242.84	25,767.94	28,383.87	.640	14.7	.19
	Total	73,568	26,534	1,189,580	697	13,094	2,992.72	242.84	41,873.80	45,109.36	.613	16.2	.18
N. H.	Initial	14,537	9,300	644,281	627	3,943	-	-	13,306.21	13,306.21	.915	44.3	.27
	Re-Erad.	35,237	23,300	407,483	564	5,945	-	1.50	20,266.68	20,268.18	.575	11.6	.17
	Total	49,774	32,600	1,051,764	1,191	9,888	-	1.50	33,572.89	33,574.39	.675	21.1	.20
Vt.	Initial	15,555	2,930	682,826	251	5,094	1,276.08	-	16,273.12	17,549.20	1.13	43.9	.33
	Re-Erad.	4,749	1,847	104,239	157	1,328	341.92	-	4,309.09	4,651.01	.979	21.9	.28
	Total	20,304	4,777	787,065	408	6,422	1,618.00	-	20,582.21	22,200.21	1.09	38.8	.32
Mass.	Initial	21,711	5,419	86,140	311	1,660	294.60	337.63	5,278.21	5,910.44	.272	4.0	.08
	Re-Erad.	52,883	17,861	339,577	466	6,920	729.24	1,246.82	22,265.27	24,241.33	.458	6.4	.13
	Total	74,594	23,280	425,717	777	8,580	1,023.84	1,584.45	27,543.48	30,151.77	.404	5.7	.12
R. I.	All Re.	8,718	4,087	10,854	22	1,081	-	-	4,027.41	4,027.41	.462	1.2	.12
N. Y.	Initial	109,121	46,277	2,215,141	1,853	15,718	-	9,152.03	52,301.99	61,454.02	.563	20.3	.14
	Re-Erad.	38,030	18,942	356,415	197	4,450	3.20	2,726.29	14,607.44	17,336.93	.456	9.4	.12
	Total	147,151	65,219	2,571,556	2,050	20,168	3.20	11,878.32	66,909.43	78,790.95	.535	17.5	.14
Penna.	Initial	27,587	3,419	1,294,376	920	6,816	-	-	22,201.19	22,201.19	.805	46.9	.25
	Re-Erad.	580	73	23,492	38	114	-	-	365.81	365.81	.631	40.5	.20
	Total	28,167	3,492	1,317,868	958	6,930	-	-	22,567.00	22,567.00	.801	46.8	.25
Totals	Initial	217,707	76,624	5,460,388	4,313	38,066	2,190.31	9,489.66	125,466.58	137,146.55	.630	25.1	.17
	Re-Erad.	184,569	83,365	1,894,016	1,790	28,097	3,447.45	4,217.45	91,609.64	99,274.54	.538	10.3	.15
	Total	402,276	159,989	7,354,404	6,103	66,163	5,637.76	13,707.11	217,076.22	236,421.09	.588	18.3	.16

Basis of costs: The cost figures are based on the total cost of laborers and foremen employed in locating & pulling Ribes; transportation of crews; and miscellaneous expenses for trail paper, picks, etc. The cost of any supervisors assigned to the W.P.A. control projects is not included in the above expenditures for Ribes eradication.

Table 44 Ribes Eradication Work Performed Under W.P.A. Program in Northeastern States During Period 1935-1940, Inclusive

(Excludes nursery sanitation and cultivated black currant elimination)

State	Type of Erad.	Total Acreage Worked	No. Ribes Pulled		Total Man Days	Cost				Per Acre		
			Wild	Cult		Local Coop	State	W.P.A.	Total	Cost	Ribes	Man Days
Maine	Initial	281,871	13,129,841	7,871	64,311	3,538.35	2,752.08	221,304.46	227,594.87	.807	46.6	.23
	Re-Erad.	307,798	6,419,626	8,991	55,988	7,329.87	2,227.85	190,802.28	200,360.00	.651	20.9	.18
	Total	589,669	19,549,467	16,862	120,299	10,868.20	4,979.93	412,106.74	427,954.87	.726	35.2	.20
N.H.	Initial	246,989	9,915,978	7,630	55,528	635.06	175.99	189,081.98	189,893.03	.769	40.1	.22
	Re-Erad.	294,801	5,712,332	2,093	53,568	1,766.51	164.88	183,073.51	185,004.90	.628	19.4	.18
	Total	541,790	15,628,310	9,723	109,096	2,401.57	340.87	372,155.49	374,897.93	.692	28.8	.20
Vt.	Initial	171,537	5,844,568	3,852	54,686	13,187.97	172.08	164,149.60	177,509.65	1.03	34.1	.32
	Re-Erad.	79,396	1,646,131	1,213	21,252	4,030.13	131.26	66,681.72	70,843.11	.892	20.7	.27
	Total	250,933	7,490,699	5,065	75,938	17,218.10	303.34	230,831.32	248,352.76	.990	29.9	.30
Mass.	Initial	168,889	1,398,242	16,488	17,122	3,114.76	1,184.93	64,643.40	68,943.09	.408	8.3	.10
	Re-Erad.	323,945	3,717,804	9,718	47,614	10,065.68	6,404.84	180,230.99	196,701.51	.607	11.5	.15
	Total	492,834	5,116,046	26,206	64,736	13,180.44	7,589.77	244,874.39	265,644.60	.539	10.4	.13
R.I.	Initial	8,710	15,381	791	1,944	-	-	7,315.22	7,315.22	.840	1.8	.22
	ReErad.	50,685	78,456	3,172	8,021	-	294.73	30,084.97	30,379.70	.599	1.5	.16
	Total	59,395	93,837	3,963	9,965	-	294.73	37,400.19	37,694.92	.635	1.6	.17
Conn.	Initial	16,227	87,906	2,138	2,287	-	22.91	8,944.53	8,967.47	.553	5.4	.14
	Re-Erad.	46,053	654,926	906	12,095	684.00	42.59	46,290.27	47,016.86	1.02	14.2	.26
	Total	62,280	742,832	3,044	14,382	684.00	65.53	55,234.80	55,984.33	.899	11.9	.23
N.Y.	Initial	703,732	19,842,036	27,133	166,918	176.00	74,998.06	614,216.98	689,391.04	.980	28.2	.24
	Re-Erad.	189,490	2,999,729	3,366	31,898	177.60	16,511.78	115,674.89	132,364.27	.699	15.8	.17
	Total	893,222	22,841,765	30,499	198,816	353.60	91,509.84	729,891.87	821,755.31	.920	25.6	.22
N.J.	Initial	3,625	21,127	299	951	-	298.10	3,862.30	4,160.40	1.15	5.8	.26
	Re-Erad.	1,417	16,956	15	392	-	-	1,631.36	1,631.36	1.15	12.0	.28
	Total	5,042	38,083	314	1,343	-	298.10	5,493.66	5,791.76	1.15	7.6	.27
Penna.	Initial	204,705	11,707,600	13,328	71,490	-	336.70	265,942.26	266,278.96	1.30	57.2	.35
	Re-Erad.	15,468	1,059,282	560	7,368	-	-	27,349.91	27,349.91	1.77	68.5	.48
	Total	220,173	12,766,882	13,888	78,858	-	336.70	293,292.17	293,628.87	1.33	58.0	.36
All States	Initial	1,806,285	61,962,679	79,530	435,237	20,652.12	79,940.88	539,460.73	1,640,053.73	.908	34.3	.24
	Re-Erad.	1,309,053	22,305,242	30,034	238,196	24,053.79	25,777.93	841,819.90	891,651.62	.681	17.0	.16
	Total	3,115,338	84,267,921	109,564	673,433	44,705.91	105,718.81	3,381,280.63	2,531,705.35	.813	27.0	.24

(1) Includes $8.53 B.E. and P.C. funds

Basis of costs: Same as listed for Table 43.

Table 45 Ribes Eradication Work Performed Under W.P.A. Program in Northeastern States During Period 1935 - 1940 Inclusive

(Excludes nursery sanitation and cultivated black currant elimination)

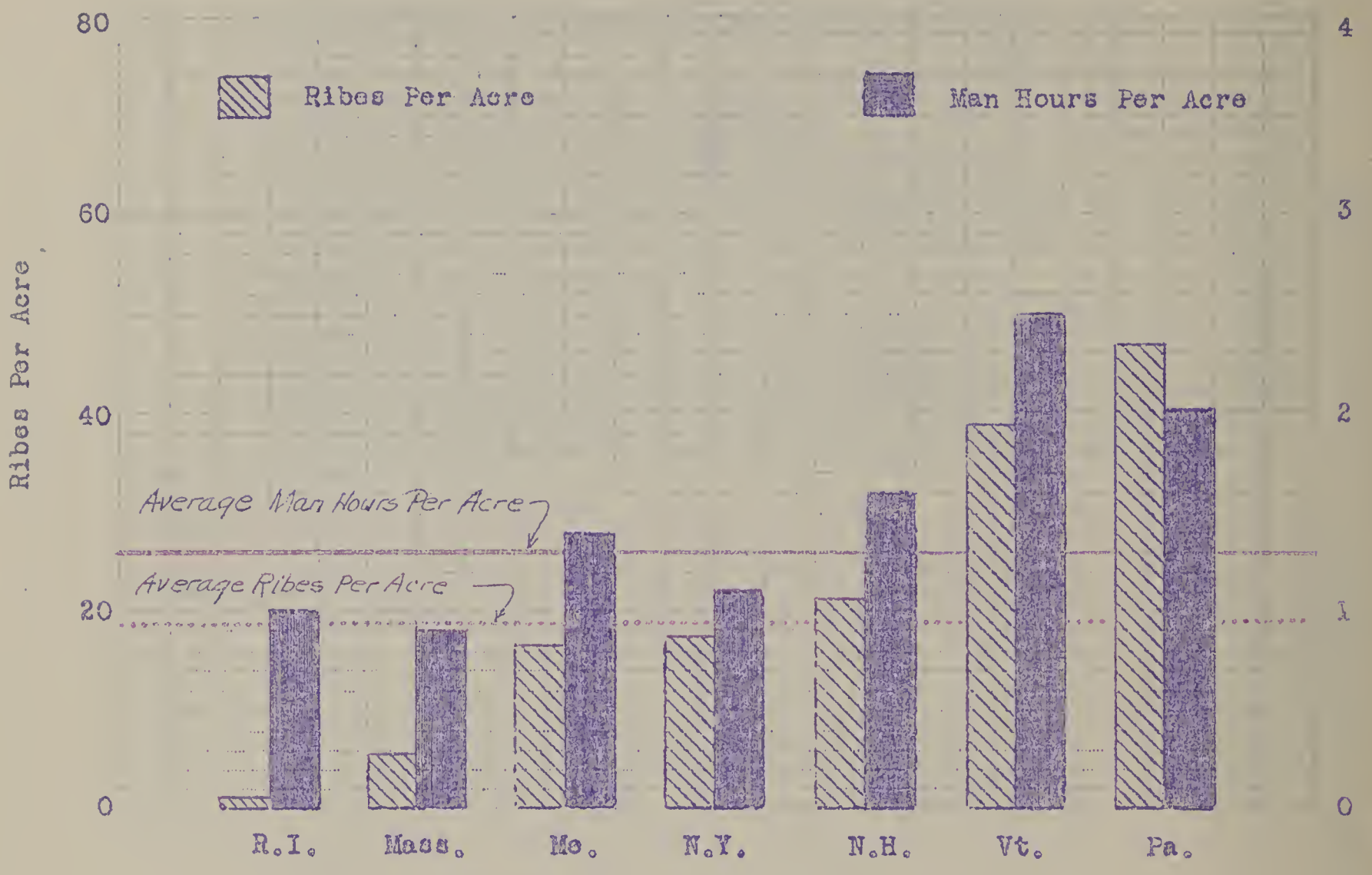
(By Years)

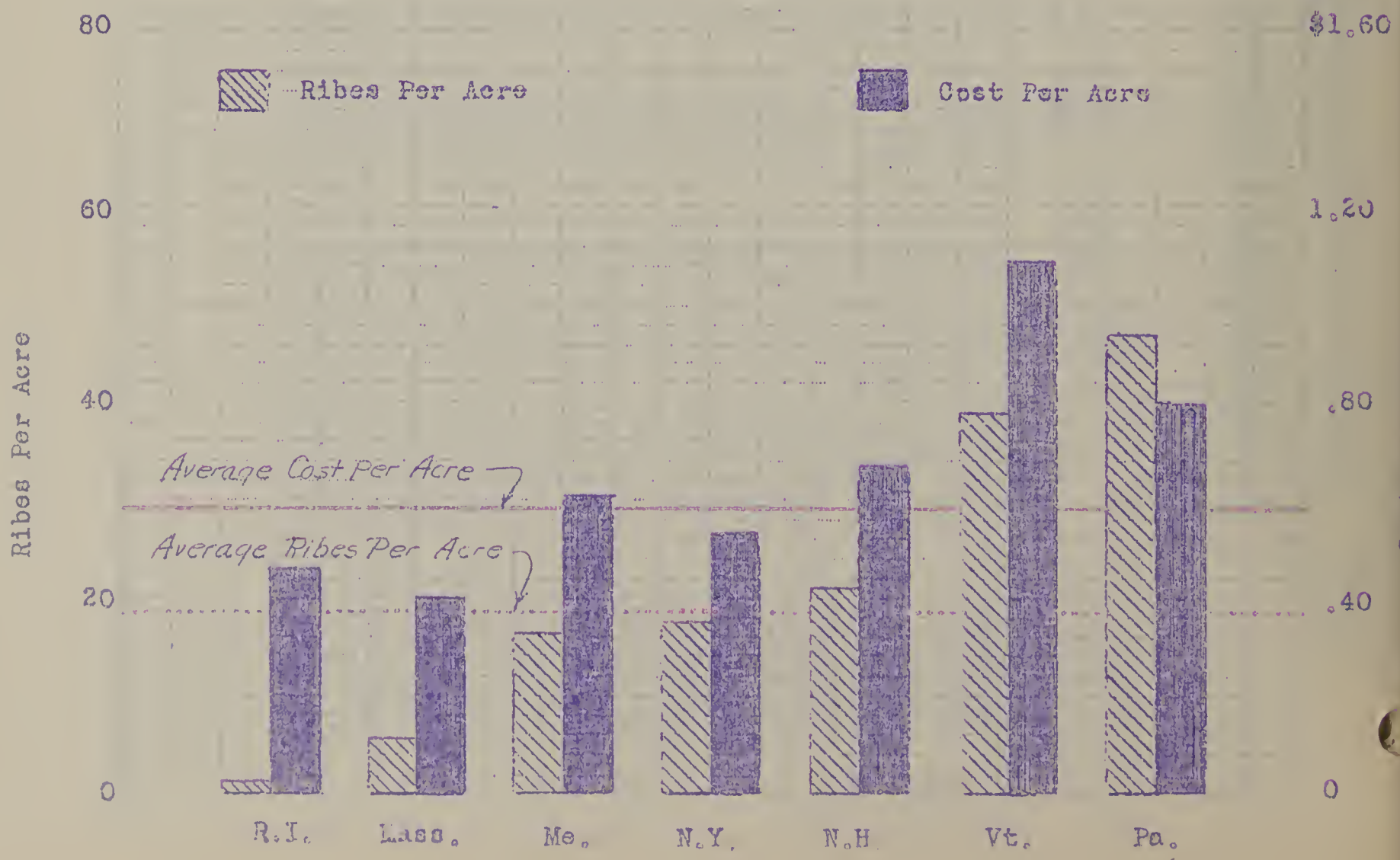
Year	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Cost				Per Acre		
			Wild	Cult.		Local Coop.	State	W.P.A.	Total	Cost	Ribes	Man Days
1935	Initial	263,758	9,460,626	19,392	77,578	2,037.37	11,269.79	266,098.93	279,406.09	1.06	35.9	.29
	Re-Erad.	156,885	2,545,100	3,592	35,518	2,193.55	2,884.91	127,308.20	132,386.66	.844	16.2	.23
	Total	420,643	12,005,726	22,984	113,096	4,230.92	14,154.70	393,407.13	411,792.75	.979	28.5	.27
1936	Initial	727,485	29,901,209	30,843	196,039	8,459.72	23,247.39	715,199.52	746,906.63	1.03	41.1	.27
	Re-Erad.	450,011	10,687,609	15,137	95,291	5,936.15	4,003.29	347,746.90	357,686.34	.795	23.7	.21
	Total	1,177,496	40,588,818	45,980	291,330	14,395.87	27,250.68	1,062,946.42	1,104,592.97	.938	34.5	.25
1937	Initial	184,382	6,901,878	4,966	41,050	2,492.47	17,074.16	143,791.44	163,358.07	.886	37.4	.22
	Re-Erad.	127,088	2,037,375	1,554	19,132	2,506.61	4,409.69	69,807.63	76,723.93	.604	16.0	.15
	Total	311,470	8,939,253	6,520	60,182	4,999.08	21,483.85	213,599.07	240,082.00	.771	23.7	.19
1938	Initial	190,318	4,297,834	7,303	39,919	2,359.04	9,996.53	143,269.31	155,624.88	.818	22.6	.21
	Re-Erad.	192,494	2,255,118	5,555	28,681	4,892.03	4,586.07	100,373.00*	109,851.10	.571	11.7	.15
	Total	382,812	6,552,952	12,858	68,600	7,251.07	14,582.60	243,642.31*	265,475.98	.693	17.1	.18
1939	Initial	222,635	5,940,744	12,713	42,585	3,113.21	8,863.35	145,634.95	157,611.51	.708	26.7	.19
	Re-Erad.	198,006	2,886,024	2,406	31,477	5,078.00	5,676.52	104,974.53	115,729.05	.584	14.6	.16
	Total	420,641	8,826,768	15,119	74,062	8,191.21	14,539.87	250,609.48	273,340.56	.650	21.0	.18
1940	Initial	217,707	5,460,388	4,313	38,066	2,190.31	9,489.66	125,466.58	137,146.55	.630	25.1	.17
	Re-Erad.	184,569	1,894,016	1,790	28,097	3,447.45	4,217.45	91,609.64	99,274.54	.538	10.3	.15
	Total	402,276	7,354,404	6,103	66,163	5,637.76	13,707.11	217,076.22	236,421.09	.588	18.3	.16
Totals	Initial	1,806,285	61,962,679	79,530	435,237	20,652.12	79,940.88	1,539,460.73	1,640,053.73	.908	34.3	.24
	Re-Erad.	1,309,053	22,305,242	30,034	238,196	24,053.79	25,777.93	841,819.90*	891,651.62	.681	17.0	.18
	Total	3,115,338	84,267,921	109,564	673,433	44,705.91	105,718.81	2,381,280.63*	2,531,705.35	.813	27.0	.22

*Includes $3.53 B.E. and P.O. Funds.

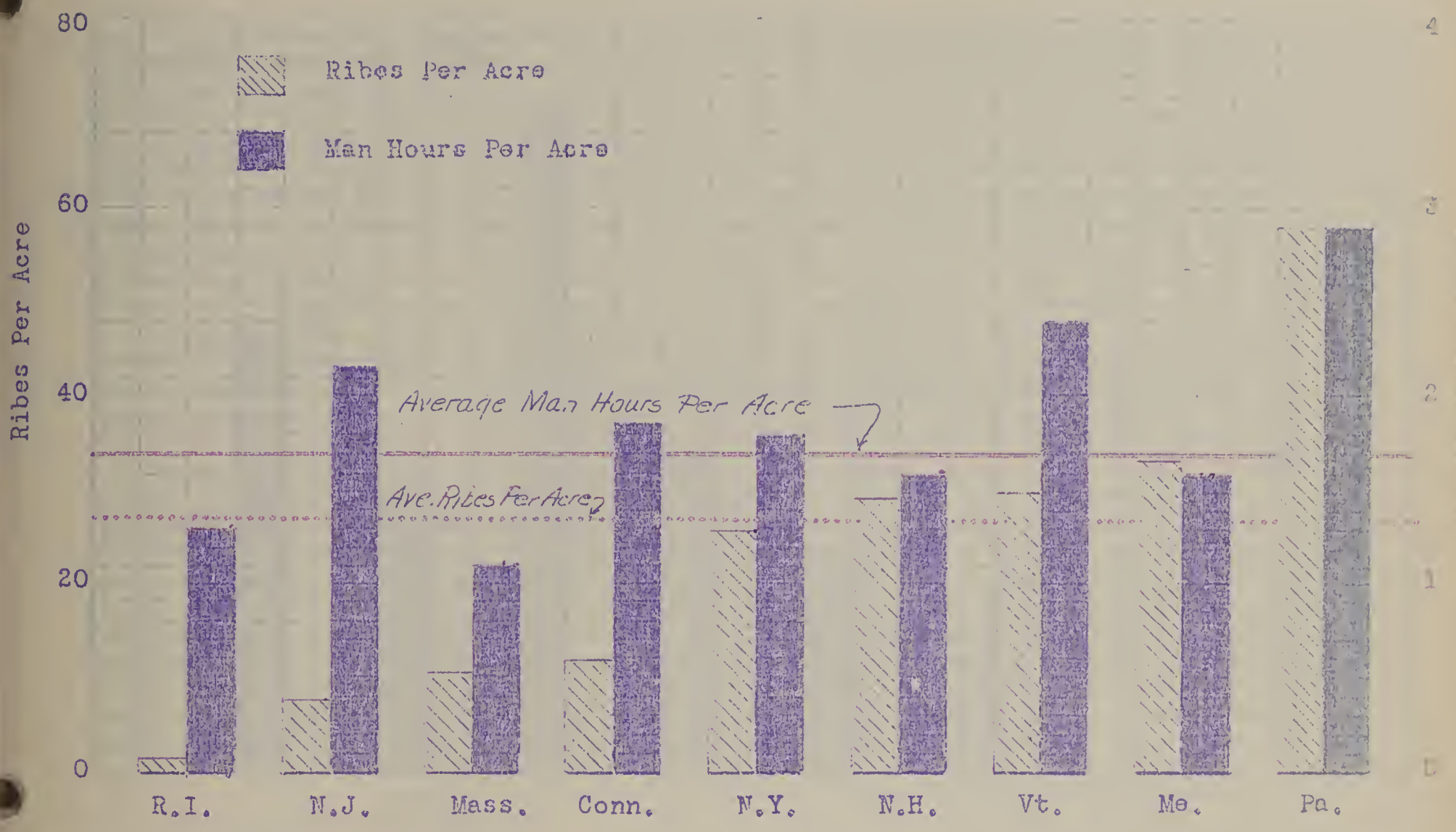
Basis of Costs: Same as listed for Table 43.

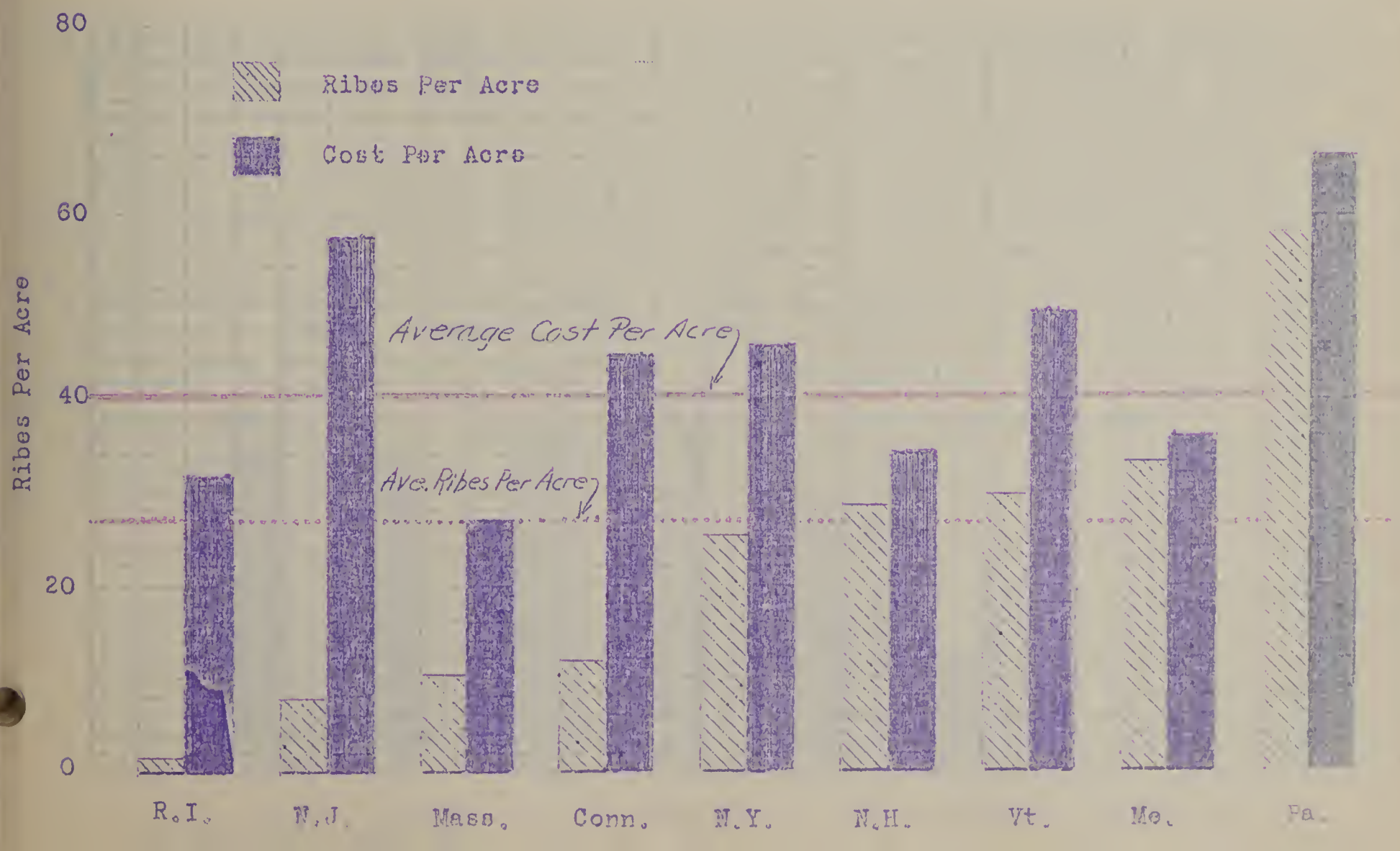
COMPARISON, BY STATES, OF PER ACRE VALUES FOR RIBES ERADICATION WORK
W.P.A. PROGRAM - NORTHEASTERN STATES - 1940





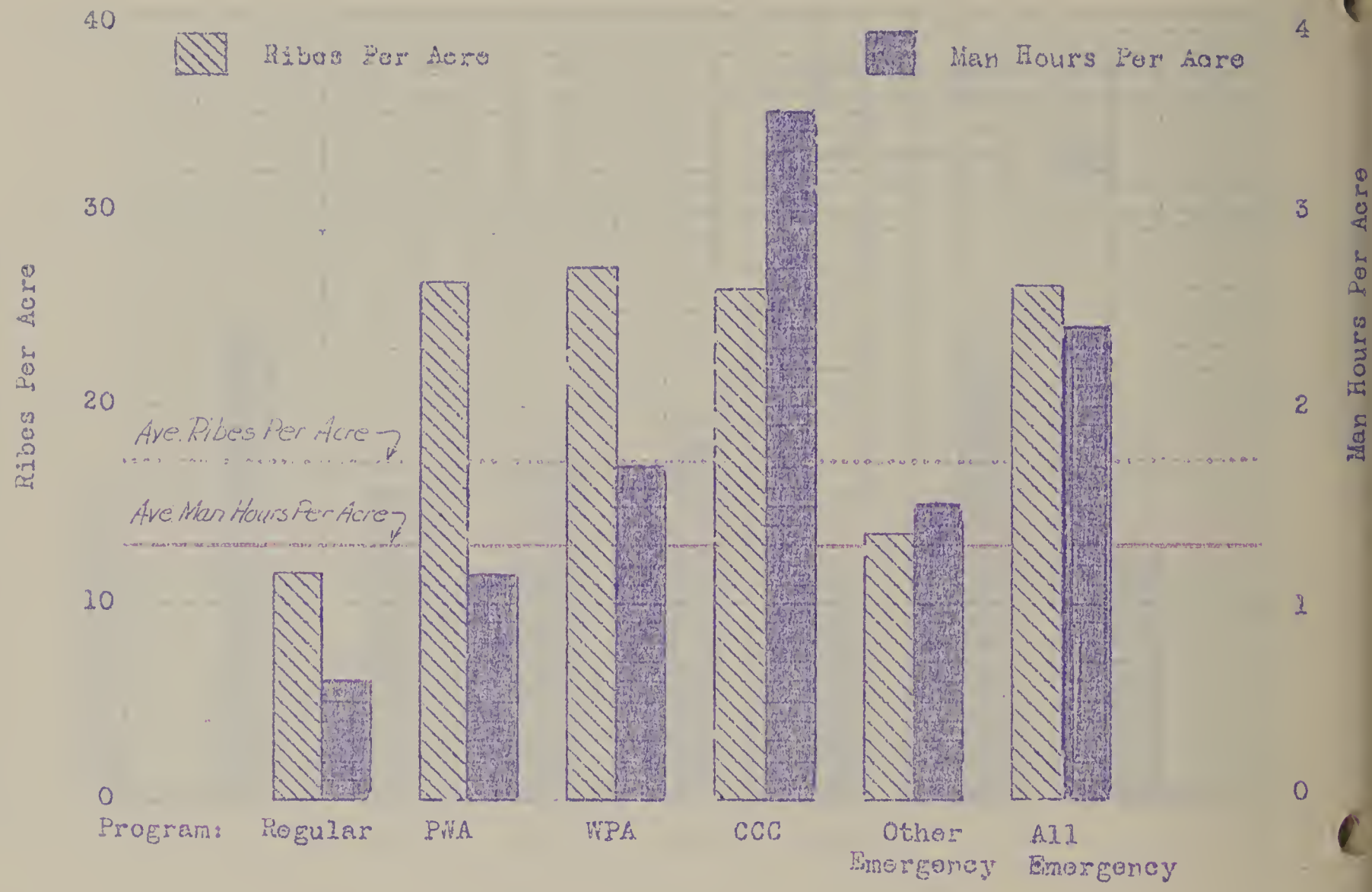
COMPARISON, BY STATES, OF PER ACRE VALUES FOR RIBES ERADICATION WORK
W.P.A. PROGRAM - NORTHEASTERN STATES - 1935 to 1940, INCLUSIVE





COMPARISON, BY PROGRAMS, OF PER ACRE VALUES FOR RIBES ERADICATION WORK

NORTHEASTERN STATES - 1935 to 1940, INCLUSIVE.





Supervision of 1940 W.P.A. Ribes Eradication Work

Due to the limited amount of money available and the necessity of maintaining the 95-5 ration as regards relief and non-relief employees, no appointed non-relief W.P.A. supervisors were employed during the 1940 season. In most instances, the district blister rust control leaders were able to give adequate supervision to the W.P.A. project, but in New Hampshire and New York a few experienced certified W.P.A. workers assisted in supervising the field work. Several state employees were also assigned to such activities in Maine and New York.

Table 46 - Supervision of Ribes Eradication Work Performed Under W.P.A. Program in Northeastern States During 1940.

State	No. Supervisors	Man Days Worked By Supervisors	Total Cost of Supervisors		
			State	W.P.A.	Total
Maine	4	416½	$2,641.70	-	$2,641.70
N. H.	2	116	-	$684.84	684.84
N. Y.	17	1,306½	5,357.58	1540.21	6,897.79
Totals	23	1,839	7,999.28	2225.05	10,224.33

Pine and Control Area Mapping

Up to the advent of the Emergency Programs in 1933, only a limited amount of pre-eradication survey work had been performed in the Northeastern States. During the early years of the control program, the acreage of white pine needing initial protection was so great and its location so evident and general, little mapping was necessary except to indicate the boundaries of the control areas. However, in recent years, the unprotected pine areas have been more isolated and smaller in size with larger proportionate protection zones. Consequently, it became necessary to do detailed mapping in order to locate the pine and to reduce the protection zone acreage to a minimum consistent with effective control. Local funds were available only for Ribes eradication work, while the state appropriations in most instances were so small that their use was confined to the yearly employment of foremen and scouts during the period May to September. The federal money was only sufficient to employ state and district leaders and the activities of these men were necessarily restricted to informational, service, and supervisory activities. The Emergency Programs provided for the first time a force of men to carry on mapping projects during the interval between the Ribes eradication seasons and excellent progress has been made since 1933 in mapping the blister rust control areas in the Northeastern States.

During the period January 1 to April 30 and from November 1 to December 31, 1940, pine and control area mapping was the major project under the W.P.A. Program in this Region. Such activities were conducted in all states, except New Jersey and Rhode Island. The 1940 surveys resulted in 832,427 acres being mapped in detail, and the examination and elimination of an additional 1,012,041 acres due to lack of sufficient white pine to justify the cost of control measures. In addition, 928½ miles of control area boundary lines were painted in the field. The detailed accomplishments in each state during 1940 and all years are shown in the following two summaries.

Table 47 - Summary of Pine and Control Area Mapping Under W.P.A. Program in Northeastern States During 1940

State	No. Towns	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Total Man Days	Cost			
						Towns	State	W.P.A.	Total
Maine	20	113,731	69,162	88½	2,001	-	-	$9,687.99	$9,687.99
N. H.	48	129,498	18,749	-	3,202	-	-	15,150.90	15,150.90
Vt.	51	143,559	641,304	32	2,824	530.52	-	10,161.20	10,691.72
Mass.	15	57,853	58,680	87	1,789	-	403.76	6,711.73	7,115.49
N. Y.	88	333,235	224,146	-	5,199	-	4585.46	18,176.10	22,761.56
Penna.	82	54,551	*	721	1,861	-	-	6,385.59	6,385.59
Totals	304	832,427	1,012,041	928½	16,876	530.52	4989.22	66,273.51	71,793.25

* In Pennsylvania, several hundred thousand acres of non-pine land were eliminated, but no definite record was kept.

Basis of costs: Includes actual cost of personnel assigned to mapping work, transportation and expenses for mapping equipment.

Table 48 - Summary of Pine and Control Area Mapping Under W.P.A Program in Northeastern States, 1935-1940, Inclusive.

(By States)

State	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Total Man Days	Cost				
					Towns & Counties	State	B.E. & P.Q.	W.P.A.	Total
Maine	1,583,397	3,951,650	1,808½	29,441	-	2,479.35	17.60	118,634.01	121,130.96
N. H.	1,108,193	221,624	-	29,952	843.11	181.14	1.25	126,820.80	127,846.30
Vt.	1,378,938	3,529,094	810	19,250	1,936.31	19.60	-	70,338.93	72,294.84
Mass.	739,948	894,244	1,116	16,331	2,413.10	1,675.21	41.75	68,713.67	72,843.73
R. I.	73,427	-	-	862	-	820.25	-	3,443.36	4,263.61
Conn.	82,417	131,017	284	3,446	175.00	619.70	420.29	14,633.31	15,848.30
N. Y.	3,271,916	1,083,442	2,399	32,277	-	16,063.56	25.11	135,096.96	151,185.63
Pa.	399,057	*	5,808	13,771	-	-	4.00	59,772.08	59,776.08
Totals	8,637,293	9,816,071	10,225½	144,430	5,367.52	21,858.81	510.00	597,453.12	625,189.45

(By Years)

1935	616,026	405,569	1,591	10,937	144.60	1,036.64	-	46,939.28	48,120.52
1936	2,124,601	2,157,787	4,918	32,701	801.00	3,927.96	405.00	153,769.78	158,903.74
1937	2,138,073	2,366,582	1,241	30,257	1,345.20	1,453.10	68.76	129,159.35	132,026.41
1938	1,222,371	1,869,593	747	27,413	1,652.02	3,512.49	36.24	102,432.74	107,633.49
1939	1,703,795	2,004,499	800	26,247	894.18	6,939.40	-	98,878.46	106,712.04
1940	832,427	1,012,041	928½	16,876	530.52	4,989.22	-	66,273.51	71,793.25
Totals	8,637,293	9,816,071	10,225½	144,431	5,367.52	21,858.81	510.00	597,453.12	625,189.45

* A large acreage of non-pine land was also eliminated in Pennsylvania, but no definite record was kept.

Basis of costs: Same as Table 47 .

Mapping of Areas Containing Blown-Down Timber - W.P.A. Program

Our Division cooperated with the state and U. S. Forest Service officials in New Hampshire and Vermont during November and December, 1938, and the early part of 1939 by assigning W.P.A. laborers to map the location and extent of the areas containing timber felled by the hurricane of September 21, 1938. This work supplemented similar activities by other agencies. The W.P.A. mapping work in Vermont was restricted to townships along the Connecticut River valley where most of the hurricane damage occurred, while the work in New Hampshire was confined to those sections of the state not mapped by use of autogiros. The special W.P.A. projects in New Hampshire and Vermont assisted the Forest Service materially in completing a survey of the damaged areas. The information obtained is also of great value to our Division in planning future blister rust control work. The disturbance of the duff will permit the stored Ribes seeds to germinate, consequently we may expect a regrowth of such bushes to become a control factor two or three years later. Many areas that we have classed as on a control maintenance basis may revert to conditions similar to those existing at the time of the initial protection work. The pines in New England produced a very heavy seed crop during 1938, consequently reproduction should occur in many of the damaged areas. From a blister rust control viewpoint, we are concerned primarily with pine growth under 30 years of age and such growth was not damaged appreciably by the storm.

Table 49 - Summary of Blown-Down Timber Mapping Conducted Under Federal W.P.A. Program in Northeastern States

Calendar Years 1938 and 1939

State	Acreage Mapped	Acreage Examined But Not Mapped *	Total Man Days	Cost			
				Towns	County	W.P.A.	Total
N. H.	42,396	462,258	982	$47.92	$22.92	$1038.76	$1109.60
Vt.	60,105	459,336	933	-	-	3047.21	3047.21
Totals	102,501	921,594	1,915	47.92	22.92	7085.97	7156.81

* Not sufficient damage to justify mapping.

Nursery Sanitation

W.P.A. employees were used on nursery sanitation work performed in the environs of 6 pine growing nurseries in the Northeastern States during the spring of 1940. This control work assured the continued production of disease-free white pines for use on reforestation projects. A total of 3,836 acres was examined and 951 wild Ribes removed as a result of 159 man days labor. The accomplishments, by states, are shown in Table 50.

Table 50 - Summary of Nursery Sanitation Work Under W.P.A. Program in Northeastern States During 1940 (All Re-Eradication Work)

State	No. Nurseries Worked	Acreage Worked	Ribes Pulled		Total Man Days	Cost			Per Acre		
			Wild	Cult.		State	W.P.A.	Total	Cost	Ribes	Man Days
Maine	1	203	187	-	19	-	$70.16	$70.16	.346	0.9	.09
N. H.	1	110	19	-	7	-	34.20	34.20	.311	0.2	.06
N. Y.	2	2,755	742	-	128	33.80	442.19	475.99	.173	0.3	.05
Penna.	2	768	3	-	5	-	20.98	20.98	.027	0.003	.01
Totals	6	3,836	951	-	159	33.80	567.53	601.33	.157	0.2	.04

Basis of costs:- Includes cost of laborers and foremen while engaged in locating and eradicating Ribes in nursery sanitation zones, and cost of crew transportation.

Table 51 - Summary of Nursery Sanitation Work Under W.P.A. Program in Northeastern States, 1935-1940, Inclusive

State	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Cost				Per Acre		
			Wild	Cult.		Indiv.	State	W.P.A.	Total	Cost	Ribes	Man Days
Maine	Re-Erad	203	187	-	19	-	-	$70.16	$70.16	.346	0.9	.09
N. H.	"	506	176	1	131	-	-	458.96	458.96	.907	0.3	.26
Vt.	"	380	257	75	75	-	24.00	218.27	242.27	.638	0.7	.20
Mass.	"	1,482	2,526	3	406	-	471.43	1495.75	1967.18	1.33	1.7	.27
R.I.	Initial	590	27	45	9	-	-	46.50	46.50	.079	0.004	.01
	Re-Erad	5,374	54	2	70	-	-	318.42	318.42	.059	0.01	.01
	Total	5,964	81	47	79	-	-	364.92	364.92	.061	0.01	.01
Conn.	Re-Erad	932	53	8	73	-	-	171.59	171.59	.184	0.06	.08
N.Y.	"	15,045	5,029	2	697	-	401.16	2457.71	2858.87	.190	0.3	.05
Penna.	"	2,458	3,113	28	212	307.50	-	857.27	1164.77	.474	1.3	.09
All States	Initial	590	27	45	9	-	-	46.50	46.50	.079	0.04	.01
	Re-Erad	26,380	11,395	119	1683	307.50	896.59	6048.13	7252.22	.275	0.4	.06
	Total	26,970	11,422	164	1692	307.50	896.59	6094.63	7298.72	.271	0.4	.06

Basis of costs: - Same as listed for Table 50.

Elimination of Ribes Nigrum (European Black Currant)

Special Ribes nigrum elimination work under the W.P.A. Program in 1940 was limited to one district in Massachusetts. This project, which was started in 1937 and continued each succeeding year, is a check on the original black currant elimination work performed in the district several years ago. During 1940, ten towns in Bristol County, one town in Plymouth County, and one town in Norfolk County were checked. In addition, the locations recorded in six towns in 1939 were reinspected to determine if the owners had properly disposed of the Ribes. The results of this check work from 1937-1940, inclusive, indicate that periodical inspections will be necessary if Ribes nigrum is to be kept entirely out of cultivation.

Table 52 summarizes the results of the 1940 black currant elimination work under the W.P.A. Program in Massachusetts and the accomplishments from 1935-1940, by states.

Table 52 - Summary of Special Ribes Nigrum Elimination Work Under W.P.A. Program in Northeastern States, 1935-1940, Inclusive

State		Mass.		N.Y.		Totals	
Period		1940	1935-1940	1940	1935-1940	1940	1935-1940
No. townships in which work done		12	-	-	-	12	-
No. properties inspected		25,548	177,196	-	3,117	25,548	180,313
No. patches located		21	844	-	25	21	869
No. Ribes Located	Nigrum	119	4,037	-	128	119	4,165
	Other Cult.	19	604	-	-	19	604
No. Ribes Pulled	Nigrum	371	3,028	-	128	371	3,156
	Other Cult.	19	432	-	-	19	432
Total man days		138	978	-	103	138	1,081
Cost	Individuals	$68.80	$496.50	-	-	$68.80	$496.50
	State	98.88	111.72	-	$244.80	98.88	356.52
	W.P.A.	373.19	4,325.85	-	182.60	373.19	4,508.45
	Total	540.87	4,934.07	-	$427.40	$540.87	$5,361.47

Blister Rust Canker Elimination

Blister rust canker elimination work under the W.P.A. Program during 1940 was restricted to Pennsylvania, where such activities were conducted in state-owned white pine plantations in three townships. A total of 55,858 white pines were examined and 35 fatally-infected trees cut down. In addition, 11,699 branch cankers and 200 stem lesions were removed from 8,258 other diseased pines. This project in Pennsylvania required 302 man days labor by the W.P.A. personnel and cost $975.85, all of which was paid from W.P.A. funds.

The results of canker elimination work performed under the W.P.A. Program during the period 1935-1940, inclusive, are shown in Table 53 .

Table 53 - Results of Blister Rust Canker Elimination Work Under W.P.A. Program in Northeastern States, 1935-1940, Inclusive.

State	Est. No. Pines Examined	No. Fatally Infected Pines Cut Down	No. Pines From Which Cankers Removed	No. Cankers Removed		Total Man Days	Cost			
				Branch	Stem		Local Coop.	State	W.P.A.	Total
N. H.	28,581	5,731	638	711	-	219	-	-	779.37	779.37
Vt.	190,369	37,161	17,213	18,932	213	2,073	405.00	20.50	6176.91	6602.41
Mass.	103,450	13,653	3,426	3,837	-	2,736	3129.00	67.98	7938.94	11135.92
N. Y.	1,470,670	145,758	187,981	250,066	1,386	11,619	240.00	1580.26	45477.02	47297.28
Penna.	352,460	4,287	53,927	108,470	1,907	2,742	-	-	10959.91	10959.91
Totals	2,145,530	206,590	263,185	382,016	3,506	19,389	3774.00	1668.74	71332.15	76774.89

Basis of costs: - Includes cost of personnel assigned to canker elimination work, crew transportation, and cost of equipment and supplies.

Special Field Studies

Pine Infection Studies

W.P.A. laborers were used during the fall of 1937 in five of the Northeastern States (Maine, New Hampshire, Vermont, Massachusetts and New York) to assist in examining white pines in protected and unprotected areas to determine the amount of pine infection and the effectiveness of blister rust control work.

The white pines in 91 plots, aggregating 87½ acres, were examined in protected areas in 58 townships in five states. These plots contained 66,713 white pines, of which 11,653, or 17.5% were infected with 15,567 blister rust cankers. Even though the protection work had been conducted 3 to 16 years prior to 1937, and had been performed chiefly by owners' labor, only 8.7 percent of the diseased pines became infected for the first time after the application of control measures. The studies show that ordinary Ribes eradication work has been effective in controlling the rust but that reworking of areas for Ribes should not be delayed too long if protection is to be maintained effectively. (Areas should be inspected at intervals of about five years to ascertain if Ribes regrowth is a menace to the pines).

In the unprotected areas studied during 1937, a total of 88 plots, comprising 85¼ acres, were laid out in 61 townships in five of the Northeastern States. Out of a total of 68,829 pines examined, 14,132, or 20.5% of the trees were infected with 23,108 blister rust cankers. Over 54% of these cankers originated after 1930, which shows the danger of delaying protection measures.

State and Local Cooperation on W.P.A. Program

The states and local cooperators continued to give good support to the W.P.A. projects in this Region during 1940, as evidenced by a total expenditure of $34,241.74 to supplement the W.P.A. funds. This amount includes contributions by four states, 30 towns, and 60 individuals.

State funds were used chiefly for field supervision and checking, crew foremen, transportation, and a small amount for equipment. The town expenditures were mainly for transportation of W.P.A. crews. In several instances, the continuance of the W.P.A. control projects in these localities depended primarily on this cooperation, as adequate W.P.A. funds were not available for transportation. Cooperation by private land owners under the W.P.A. Program represents the cost of additional labor furnished by these individuals.

Tables 54 and 55 show the amount of state and local cooperative funds spent in conjunction with the W.P.A. Program during 1940 and the period 1935-1940, inclusive.

Table 54 - State and Local Cooperative Funds Spent in Conjunction With W.P.A. Program in Northeastern States During 1940

State	State Funds	Town Funds		Individual Funds		Total
		No. Towns	Amount	No. Indiv.	Amount	
Maine	2,884.54	18	2,992.72	-	-	5,877.26
N. H.	1.50	-	-	-	-	1.50
Vt.	-	8	2,148.52	-	-	2,148.52
Mass.	2,087.09	4	1,017.84	59	74.80	3,179.73
R. I.	-	-	-	-	-	-
N. Y.	23,031.55	-	-	1	3.20	23,034.73
Penna.	-	-	-	-	-	-
Totals	28,004.66	30	6,159.08	60	78.00	34,241.74

Table 55 - State and Local Cooperative Funds Spent in Conjunction With W.P.A. Program in Northeastern States, 1935-1940, Inclusive

State	State Funds	County Funds		Town Funds		Indiv. Funds		Total
		No. County Contributions	Amount	No. Town Contributions	Amount	No. Indiv.	Amount	
Me.	14,867.94	-	-	74	10,823.80	3	44.40	25,736.1
N. H.	2,655.68	6	1724.08	20	1,591.44	-	-	5,971.20
Vt.	487.50	-	-	50	20,099.41	-	-	20,586.91
Mass.	10,583.37	-	-	34	17,104.08	683	2249.66	29,937.11
R. I.	1,114.98	-	-	-	-	-	-	1,114.98
Conn.	1,719.21	-	-	2	851.00	1	8.00	2,578.21
N. Y.	147,709.19	2	336.00	-	-	3	257.60	148,302.79
N. J.	941.86	-	-	-	-	-	-	941.86
Pa.	336.70	-	-	-	-	5	307.50	644.20
Totals	180,416.43	8	2060.08	180	50,469.73	700	2867.16	235,313.40

Appropriation 001089

Item	Maine	N. H.	Vt.	Mass.	R. I.	Conn.	N. Y.	N. J.	Penna.	
Original allotment (1)	255,262.00	250,587.00	151,283.00	157,669.00	20,212.00	51,127.00	421,804.00	2958.00	200,749.00	1,511,
Rescission-6/10/36	31,500.00	35,000.00	22,500.00	20,000.00	3,000.00	6,000.00	56,500.00	-	32,000.00	206,
Increase-7/8/36	26,000.00	18,500.00	13,000.00	13,000.00	2,000.00	3,500.00	37,000.00	1000.00	18,000.00	152,
Rescission-10/20/37	199.51	199.56	98.28	400.00	54.48	100.68	174.31	64.51	75.59	1,
Rescission-9/15/38	-	-	-	.03	-	.05	.35	-	-	
Increase-6/23/39	-	-	4.95	-	-	-	-	-	30.84	
Rescission	-	-	4.95	-	-	-	-	-	30.84	
Total Funds-001089	249,562.49	233,887.44	141,684.72	150,268.97	19,157.52	48,526.27	402,129.34	3893.49	186,673.41	1,435,

Appropriation 201085

Item										
Original allotment (3)	53,600.00	34,100.00	16,200.00	23,500.00	4,500.00	2,300.00	91,700.00	800.00	24,500.00	251,
Increase-8/24/36	-	25,300.00	10,000.00	-	-	-	25,000.00	-	7,500.00	67,
Rescission-8/24/36	3,300.00	-	-	-	-	1,600.00	-	-	-	4,
Increase-9/15/36	46,500.00	52,600.00	33,200.00	30,000.00	2,900.00	7,000.00	69,000.00	600.00	37,000.00	278,
Increase-11/27/36	-	-	-	5,000.00	1,000.00	1,000.00	10,000.00	-	1,000.00	18,
Rescission-11/27/36	-	14,000.00	3,000.00	-	-	-	-	-	-	17,
Rescission-12/31/36	-	-	3,340.00	-	-	-	4,000.00	-	-	7,
Increase-/1/4/37	-	-	-	-	-	310.00	-	-	-	
Increase-1/15/37	-	-	3,000.00	-	-	-	-	-	-	3,
Rescission-1/15/37	-	-	-	-	-	-	-	-	3,000.00	3,
Increase-2/13/37	8,100.00	5,600.00	4,400.00	2,100.00	-	900.00	16,920.00	-	4,000.00	42,
Increase-3/8/37	9,510.00	9,400.00	7,750.00	11,730.00	430.00	1,550.00	17,750.00	140.00	6,740.00	65,
Increase-5/12/37	10,690.00	10,020.00	6,240.00	5,820.00	430.00	1,250.00	14,960.00	140.00	5,450.00	55,
Rescission-10/12/37	2,000.00	2,200.00	2,800.00	4,100.00	60.00	825.00	3,500.00	75.00	3,800.00	19,
Rescission-7/27/38	312.00	153.00	243.00	487.00	-	118.00	468.00	-	275.00	2,
Rescission-6/30/39	54.79	50.68	62.97	53.88	7.32	51.22	60.67	11.32	86.59	
Total Funds-201085	122,733.21	120,616.32	71,344.03	76,509.12	9,192.61	11,715.78	237,301.33	1593.68	79,050.41	727,

Appropriation 501082

Item										
Original allotment (3)	39,720.00	41,370.00	28,610.00	39,550.00	1,550.00	4,130.00	76,120.00	1580.00	29,740.00	262,
Increase-10/1/37	-	-	-	-	-	-	-	260.00	-	
Rescission-10/1/37	-	-	-	280.00	-	-	-	-	-	
Rescission-11/10/37	-	-	-	1,000.00	-	-	-	-	-	1,
Increase-11/10/37	-	-	-	-	-	-	1,000.00	-	-	1,
Increase-12/6/37	-	-	1,000.00	-	-	-	-	-	-	1,
Rescission-12/6/37	-	-	-	-	-	-	-	-	1,000.00	1,
Rescission-12/17/37	-	200.00	-	100.00	-	-	200.00	-	1,400.00	1,
Increase-12/17/37	-	-	1,900.00	-	-	-	-	-	-	1,
Increase-1/7/38	24,958.00	27,891.00	17,473.00	24,440.00	1,098.00	5,140.00	56,786.00	1080.00	18,134.00	177,
Rescission-5/28/38	-	-	-	-	-	-	-	1080.00	-	1,
Increase-5/28/38	-	-	-	500.00	580.00	-	-	-	-	1,
Rescission	141.88	739.99	278.07	676.95	65.62	182.61	1,847.33	23.80	522.16	
Total Funds-501082	64,536.12	68,321.01	48,704.93	66,[illegible]05	3,162.38	9,087.39	131,858.67	1816.20	49,[illegible]	

Appropriation 701082

State	Maine	N. H.	Vt.	Mass.	R. I.	Conn.	N. Y.	N. J.	Penna.	Totals
Original allotment	10,308.00	9,493.00	6,010.00	11,246.00	928.00	1,383.00	16,838.00	-	7,310.00	63,516
Increase 8/16/38	41,250.00	42,400.00	27,398.00	45,308.00	1,856.00	7,358.00	75,385.00	-	29,963.00	270,918
Increase 3/14/39	28,207.00	29,200.00	19,271.00	35,181.00	2,412.00	5,452.00	52,554.00	-	22,323.00	194,600
Rescission	1,000.00	2,200.00	1,250.00	1,250.00	86.95	300.00	2,700.00	-	100.00	8,836
Total Funds 701082	78,765.00	78,893.00	51,429.00	90,485.00	5,109.05	13,893.00	142,077.00	-	59,496.00	520,147

Appropriation 201087

Original allotment	20,490.00	21,020.00	13,490.00	11,000.00	1,500.00	-	20,000.00	-	14,270.00	101,770
Rescission-7/29/39	8,000.00	6,000.00	4,000.00	-	-	-	-	-	6,000.00	24,000
Increase-8/16/39	18,353.00	17,498.00	8,570.00	13,571.00	2,200.00	-	31,261.00	-	9,498.00	100,951
Increase-10/11/39	5,000.00	3,666.00	3,200.00	4,256.00	-	-	7,734.00	-	3,166.00	27,022
Increase-11/8/39	-	-	1,600.00	1,424.00	-	-	1,000.00	-	2,000.00	6,024
Increase 11/24/39	1,000.00	2,000.00	1,000.00	1,520.00	-	-	3,500.00	-	1,000.00	10,020
Increase-11/28/39	-	100.00	-	-	1,000.00	-	-	-	-	1,100
Increase-12/6/39	-	-	3,000.00	-	-	-	3,200.00	-	-	6,200
Increase-1/3/40	3,000.00	5,000.00	2,000.00	3,000.00	-	-	3,800.00	-	2,000.00	18,800
Increase-1/24/40	2,000.00	2,000.00	2,000.00	2,000.00	-	-	3,000.00	-	2,000.00	13,000
Increase-2/19/40	1,500.00	1,500.00	1,500.00	1,500.00	-	-	1,500.00	-	1,500.00	9,000
Increase-3/14/40	2,000.00	2,000.00	2,000.00	2,000.00	-	-	4,000.00	-	2,000.00	14,000
Increase-3/18/40	700.00	650.00	-	-	-	-	900.00	-	-	2,250
Increase-4/23/40	2,025.00	2,000.00	-	-	-	-	2,725.00	-	-	6,750
Increase-4/23/40	9,000.00	10,000.00	6,840.00	9,000.00	-	-	22,962.00	-	6,000.00	63,802
Increase-5/10/40	-	-	2,000.00	-	-	-	4,000.00	-	-	6,000
Increase-6/8/40	3,657.00	4,716.00	-	3,638.00	-	-	10,043.00	-	2,966.00	25,020
Total Funds-201087	60,725.00	66,150.00	43,200.00	52,909.00	4,700.00	-	119,625.00	-	40,400.00	387,709

Appropriation 401087

Original allotment	12,024.00	17,000.00	11,000.00	15,000.00	1,144.00	-	24,342.00	-	9,525.00	90,035
Increase-8/28/40	8,000.00	4,000.00	2,000.00	2,000.00	1,000.00	-	16,000.00	-	2,000.00	35,000
Increase-9/13/40	15,648.00	10,717.00	5,659.00	6,489.00	976.00	-	15,096.00	-	4,715.00	59,300
Increase-9/23/40	584.00	891.00	719.00	733.00	-	-	1,596.00	-	705.00	5,228
Increase-12/19/40	2,838.00	4,064.00	3,374.00	3,426.00	-	-	6,889.00	-	3,318.00	23,909
Total Funds-401087	39,094.00	36,672.00	22,752.00	27,648.00	3,120.00	-	63,925.00	-	20,263.00	213,474

Recapitulation

201089	249,562.49	233,887.44	141,684.72	150,268.97	19,157.52	48,526.27	402,129.34	3893.49	186,673.41
701082	122,733.21	120,616.32	71,344.05	73,209.12	9,192.61	11,715.78	237,301.33	1593.68	79,050.41
201087	64,536.12	68,321.01	48,704.93	62,455.05	5,162.38	9,087.39	131,858.67	1810.20	44,951.84
701082	78,765.00	78,893.00	51,429.00	90,485.00	5,109.05	13,893.00	142,077.00	-	59,496.00
201087	60,725.00	66,150.00	43,200.00	52,909.00	4,700.00	-	119,625.00	-	40,400.00
401087	39,094.00	36,672.00	22,752.00	27,648.00	3,120.00	-	63,925.00	-	20,263.00

N.P.A. Administrative Allotments in Northeastern States

(1937-1940, Inclusive)

Fiscal Year	Appropriation Number	Amount
1938	501009	$5,840.00
1938	01-06/8999	3,600.00
1939	701089 (Original allotment)	285.00
1939	701089 (Increase on 7/26/38)	285.00
1939	701089 (Decrease)	25.44
1939	701009 (Original allotment)	1,870.00
1939	701009 (Increase on 9/20/38)	1,900.00
1939	701009 (Increase on 3/10/39)	250.00
1939	701009 (Increase on 3/29/39)	3,160.00
1939	701009 (Decrease)	450.00
1940	201088 (Original allotment)	2,000.00
1940	201088 (Decrease on 7/26/39)	388.00
1940	201088 (Increase on 8/17/39)	4,512.00
1940	201088 (Increase on 10/11/39)	586.00
1940	201088 (Increase on 11/28/39)	100.00
1940	201088 (Increase on 12/6/39)	250.00
1940	201088 (Increase on 1/3/40)	256.00
1940	201088 (Increase on 1/24/40)	300.00
1940	201088 (Increase on 2/19/40)	400.00
1940	201088 (Increase on 3/14/40)	600.00
1940	201088 (Increase on 4/4/40)	140.00
1940	201088 (Increase on 4/4/40)	12.00
1940	201088 (Increase on 4/23/40)	448.00
1940	201088 (Increase on 5/6/40)	657.00
1940	201088 (Increase on 6/12/40)	856.00
1940	201088 (Increase on 6/12/40)	687.00
1941	401008 (Original allotment)	1,267.00
1941	401008 (Increase on 8/10/40)	1,267.00
1941	401008 (Increase on 8/20/40)	160.00
1941	401008 (Increase on 8/29/40)	130.00
1941	401008 (Increase on 9/14/40)	1,615.00
1941	401008 (Increase on 12/17/40)	1,203.00
Total of all administrative allotments		$33,772.56

Table 57 — Total W.P.A. Expenditures During Calendar Year 1940 For The Various Blister Rust Control Projects in the Northeastern States.

State	Supervision and B.R.C. Agent Activities*	Eradication Assistants and Checkers	Ribes Eradication	Black Currant Elimination	Nursery Sanitation	Blister Rust Canker Elimination	Field Data		Totals
							Mapping	General	
Maine	5,264.26	-	41,873.80	-	70.16	-	9,687.99	152.80	57,049.01
N. H.	6,532.60	684.84	33,572.89	-	34.20	-	15,150.90	1,423.18	57,398.61
Vt.	6,344.01	-	20,582.21	-	-	-	10,161.20	-	37,087.42
Mass.	4,191.01	-	27,543.48	373.19	-	-	6,711.73	-	38,819.41
R. I.	18.78	-	4,027.41	-	-	-	-	-	4,046.19
N. Y.	14,895.69	1,540.21	66,909.43	-	442.19	-	18,176.10	3,158.07	105,121.69
Penna.	5,527.87		22,567.00	-	20.98	975.85	6,385.59	-	35,477.29
Totals	42,774.22	2,225.05	217,076.22	373.19	567.53	975.85	66,273.51	4,734.05	334,999.82

*Includes expenditures for district leaders salaries paid from Cambridge office W.P.A. administrative allotments as follows: Maine-$693.32; Vermont-$758.31; Massachusetts-$1,753.28; Pennsylvania-$108.33; Total-$3,293.24.

In addition to the expenditures listed in Table 57, W.P.A. obligations for the Cambridge, Massachusetts regional office during the calendar year 1940 were as follows:

	Wages of Relief Labor	Wages of Non-Relief Labor	Salaries of Appointees	Total Salaries and Wages	Total Expenses	Total
Massachusetts allotment	$6,998.72	0	0	$6,998.72	$1,385.81	$8,384.53
Administrative allotment	0	$206.04	$6,683.20	6,889.24	341.35	7,230.59
Totals	$6,998.72	$206.04	$6,683.20	$13,887.96	$1,727.16	$15,615.12

Table 58 - Total W.P.A. Expenditures For The Various Blister Rust Control Projects in The Northeastern States During Period 1935-1940, Inclusive
(By States)

State	Supervision and B.R.C. Agent Activities	Eradication Assistants and Checkers	Ribes Eradication	Black Currant Elimination	Nursery Sanitation	Blister Rust Canker Elimination	Field Data		Total
							Mapping	General	
Maine	50,718.40	19,914.38	412,144.77	-	70.16	-	118,634.01	2,410.31	603,892.03
N. H.	57,089.84	20,185.40	372,155.49	-	458.96	779.37	126,820.80	15,197.58	592,687.44
Vt.	43,035.23	12,371.02	230,831.32	-	218.27	6,176.91	70,338.93	8,297.11	371,268.79
Mass.	41,981.10	7,791.00	244,865.86	4,325.85	1,495.75	7,938.94	68,713.67	2,893.87	380,016.04
R. I.	2,729.56	-	37,400.19	-	364.92	-	3,443.36	-	43,938.03
Conn.	7,356.40	2,383.15	55,234.80	-	171.59	-	14,633.31	3,374.74	83,153.99
N. Y.	108,242.61	23,959.14	730,137.63	182.60	2,457.71	45,477.02	135,096.96	27,789.20	1,075,342.97
N. J.	818.46	991.25	5,493.66	-	-	-	-	-	7,303.37
Penna.	44,477.03	15,953.23	293,292.17	-	857.27	10,959.91	59,772.08	-	425,311.69
Totals	356,458.63	103,548.57	2,381,555.89	4,508.45	6,094.63	71,332.15	597,453.12	59,962.81	3,580,914.25

(1) Includes $38.03 W.P.A. funds expended under Regular Cooperative Program.
(2) Includes $948.45 W.P.A. funds expended under C.C.C. Program.
(3) Includes expenditures from Cambridge office W.P.A. administrative allotment as indicated in Table on Page
(4) Includes $300.80 W.P.A. funds expended under C.C.C. Program and $269.78 under S.C.S. Program.
(5) Includes $245.76 W.P.A. funds expended under S.C.S. Program.

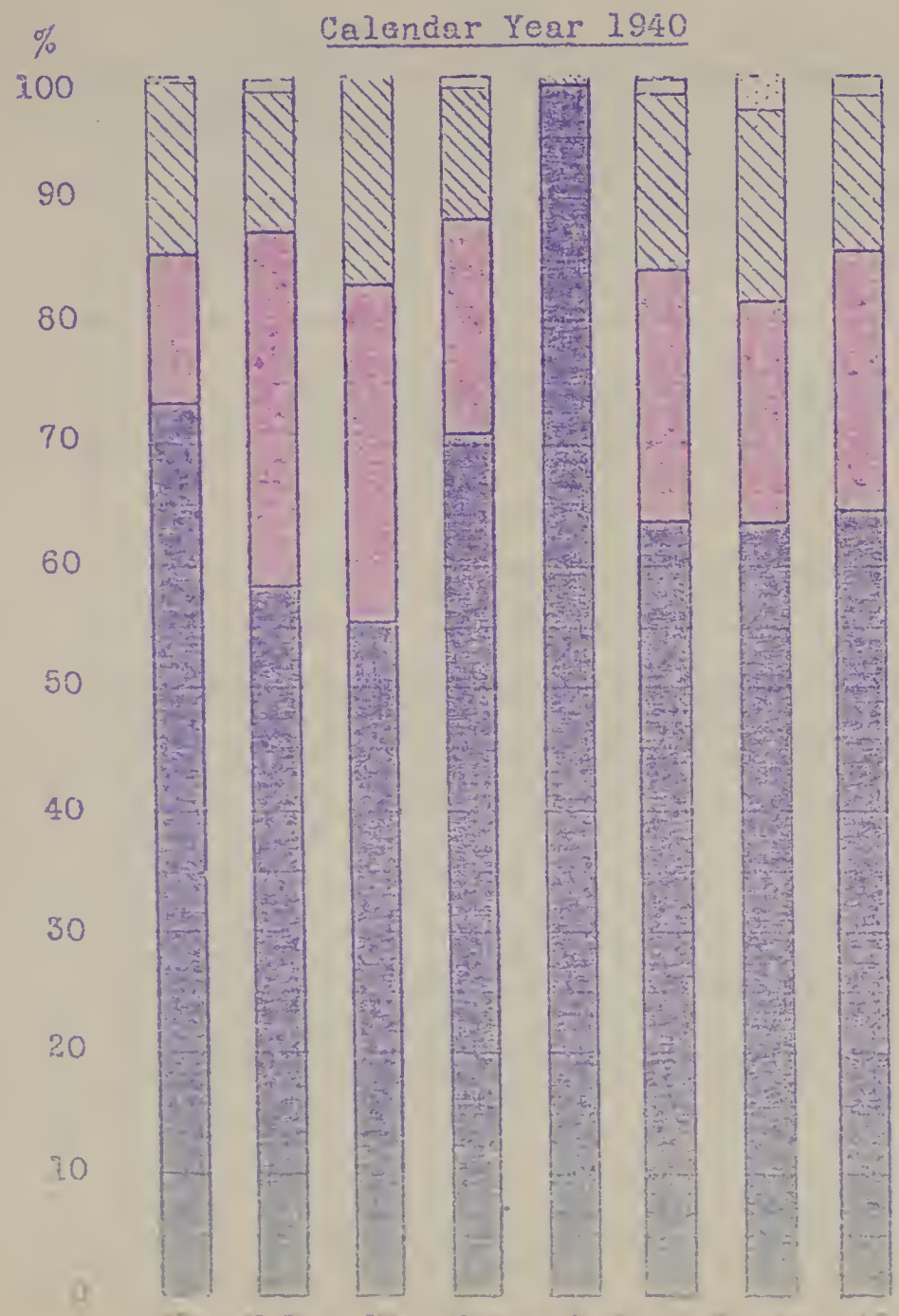
In addition to the expenditures listed in Table W.P.A. obligations for the Cambridge, Massachusetts regional office during the period 1935-1940, inclusive, were as follows:

	Wages of Relief Labor	Wages of Non-Relief Labor	Salaries of Appointees	Total Expenses	Total
Massachusetts allotments	$47,656.71	$72.25	$8,065.91	$14,898.29	$70,693.16
Administrative allotments	0	206.04	21,063.73	6,139.71	27,409.48
Totals	$47,656.71	$278.29	$29,129.64	$21,038.00	$98,102.64

PERCENTAGE OF TOTAL W.P.A. EXPENDITURES IN RESPECTIVE NORTHEASTERN STATES PAID FOR EACH PROJECT

LEGEND

- Black Currant Elimination - Nursery Sanitation - Blister Rust Canker Elimination
- Eradication Assistants and Checkers
- General Supervision and Blister Rust Control Agent Activities
- Field Data (Pre-eradication surveys and plot studies)
- Ribes Eradication



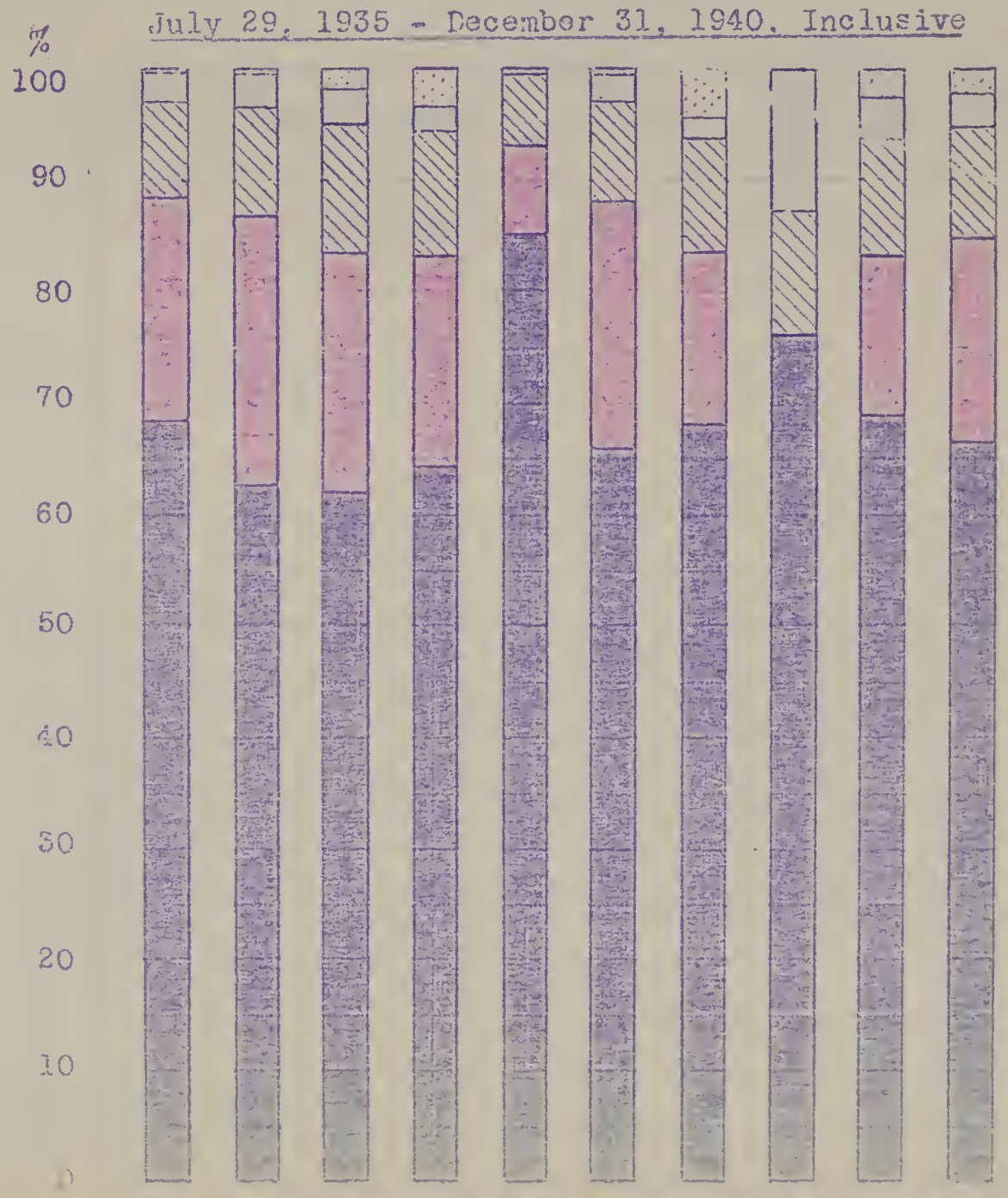


Table 59 - Total Expenditures, By Cooperating Agencies, Under W.P.A. Program in Northeastern States During Calendar Year 1940

State	State Funds	Towns	Indiv.	W. P. A.		Total
				Project Funds	Adm. Funds	
Maine	2,384.54	2,992.72	-	856,355.69	$693.32	62,926.27
N. H.	1.50	-	-	57,398.61	-	57,400.11
Vt.	-	2,148.52	-	36,329.11	758.31	39,235.94
Mass.	2,087.09	1,017.84	74.80	37,086.13	1,733.28	41,999.14
R. I.	-	-	-	4,046.19	-	4,046.19
N. Y.	23,031.53	-	5.20	105,121.69	-	128,156.42
Penna.	-	-	-	35,368.56	108.33	35,477.29
Totals	28,004.66	6,159.08	78.00	331,706.38	3,293.24	369,241.36

Table 60 - Total Cooperative Expenditures, By Projects, Under W. P. A. Program in Northeastern States During Calendar Year 1940.

State	Supervision and B.R.C. Agent Activities (1)	Ribes Eradication	Erad. Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Blister Rust Canker Elimination	Field Data		Total
							Mapping	General	
Maine	$5,264.26	$45,109.36	$2,641.70	-	$70.16	-	$9,687.99	$152.80	$62,926.27
N. H.	6,532.60	33,574.39	684.84	-	34.20	-	15,150.90	1,423.18	57,400.11
Vt.	6,344.01	22,200.21	-	-	-	-	10,691.72	-	39,235.94
Mass.	4,191.01	30,151.77	-	540.87	-	-	7,115.49	-	41,999.14
R. I.	18.78	4,027.41	-	-	-	-	-	-	4,046.19
N. Y.	14,895.69	78,790.95	6,897.79	-	475.99	-	22,761.56	4,334.44	128,156.42
Penna.	5,527.87	22,567.00	-	-	20.98	975.85	6,385.59	-	35,477.29
Totals	42,774.22	236,421.09	10,224.33	540.87	601.33	975.85	71,793.25	5,910.42	369,241.36

In addition to the expenditures listed above, W.P.A. obligations for the Cambridge, Massachusetts regional office during the calendar year 1940 amounted to $15,615.12. Out of this total, $8,384.53 was derived from the Massachusetts field allotments, while $7,230.59 was expended from W.P.A. administrative funds.

(1) Includes expenditures from Cambridge office W.P.A. administrative allotment as indicated on Table 59.

Table 61 - Total Expenditures, By Cooperating Agencies, Under W.P.A. Program in Northeastern States During Period 1935-1940, Inclusive

State	State Funds	Towns	Individuals	Counties	B. E. & P. Q.	W. P. A.		Total
						Project Funds	Adm. Funds	
Maine	14,867.94	10,823.80	44.40	-	17.60	603,160.68	693.32	629,607.74
N. H.	2,655.68	1,591.44	-	1,724.08	205.90	592,687.44	-	598,864.54
Vt.	487.50	20,099.41	-	-	-	370,510.48	758.31	391,855.70
Mass.	10,583.37	17,104.08	2,249.66	-	50.28	377,334.31	1,733.28	409,054.98
R. I.	1,114.98	-	-	-	-	43,876.92	61.11	45,053.01
Conn.	1,719.21	851.00	8.00	-	690.29	83,153.99	-	86,422.49
N. Y.	147,709.19	-	257.60	336.00	25.11	1,072,526.53	-	1,220,854.43
N J	941.86	-	-	-	-	7,303.37	-	8,245.23
Penna.	336.70	-	307.50	-	4.00	425,203.36	108.33	425,959.89
Totals	180,416.43	50,469.73	2,867.16	2,060.08	993.18	3,575,757.08	3,354.35	3,815,918.01

(1) In addition, $58.03 W.P.A. funds were expended in conjunction with Regular Cooperative Program.
(2) In addition, $948.45 W.P. A. funds were expended in conjunction with C.C.C. Program.
(3) In addition, $300.80 W.P.A. funds were expended in conjunction with C.C.C. Program and $515.54 with S.C.S. Program.

Table 62 - Total Cooperative Expenditures, By Projects, Under W.P.A. Program in Northeastern States During Period 1935-1940, Inclusive.

State	Supervision and B.R.C. Agent Activities	Ribes Eradication	Eradication Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Ribes Compensation	Blister Rust Canker Elimination	Field Data		Total
								Mapping	General	
Maine	50,718.40	427,954.87	27,323.04	-	70.16	-	-	121,150.96	2,410.31	629,607.74
N. H.	57,089.84	374,897.93	22,502.90	-	458.96	-	779.37	127,846.30	15,289.24	598,864.54
Vt.	43,035.25	248,352.76	12,491.03	-	242.27	-	6,602.41	72,294.84	8,837.11	391,855.70
Mass.	41,991.10	265,644.60	7,284.21	4,934.07	1,967.18	225.60	11,135.92	72,843.73	5,028.57	409,054.98
R. I.	2,729.56	37,694.92	-	-	364.92	-	-	4,263.61	-	45,053.01
Conn.	7,356.40	55,984.33	2,976.38	-	171.59	-	-	15,848.30	4,085.49	86,422.49
N. Y.	108,242.61	821,755.31	53,093.88	427.40	2,858.87	-	47,297.28	151,185.63	35,993.45	1,220,854.43
N. J.	818.46	5,791.76	1,635.01	-	-	-	-	-	-	8,245.23
Penna.	44,477.03	293,628.87	15,953.23	-	1,164.77	-	10,959.91	59,776.08	-	425,959.89
Totals	356,458.63	2,531,705.35	143,259.73	5,361.47	7,298.72	225.60	76,774.89	625,189.45	69,644.17	3,815,918.01

In addition to the expenditures listed above, W.P.A. obligations for the Cambridge, Massachusetts regional office during the period 1935-1940, inclusive, amounted to $98,102.84. Of this total, $70,693.16 was derived from the Massachusetts field allotments, while $27,409.68 was expended from W.P.A. administrative allotments.

(1) Includes expenditures from Cambridge office W.P.A. nonallocated allotments as indicated in Table 61.

Table 63 - W.P.A. Obligations For Salaries and Wages

Calendar Year 1940

State	Wages of Security-Wage Workers		Salaries of Appointees		Total Wages and Salaries
	Relief	Non-Relief	Project Funds	Adm. Funds	
Maine	$49,251.70	-	$1,926.16	$695.32	$51,371.18
N. H.	47,921.61	-	4,731.61	-	52,653.22
Vt.	30,303.00	-	2,412.33	758.51	33,473.64
Mass.	33,831.26	-	866.64	1,733.28	36,421.18
R. I.	3,964.70	-	-	-	3,964.70
N. Y.	88,790.00	-	10,202.52	-	98,992.52
Penna.	28,551.03	-	3,389.64	108.33	32,049.00
Totals	$282,603.30	-	23,528.90	3,295.24	309,425.44
% of Total	91.3	-	7.6	1.1	100.0

July 29, 1935 to December 31, 1940

Maine	478,933.68	29,265.96	48,204.14	$693.32	$557,097.10
N. H.	450,198.80	49,441.01	57,884.06	-	557,523.87
Vt.	295,832.30	14,848.52	35,213.48	758.31	346,652.61
Mass.	321,295.81	5,766.32	36,457.44	1,733.28	365,252.85
R. I.	38,187.77	2,427.54	2,583.23	61.11	43,259.65
Conn.	68,930.56	1,198.93	5,971.50	-	76,100.99
N. Y.	904,092.53	27,466.07	104,844.70	-	1,036,393.10
N. J.	5,441.91	-	1,548.71	-	6,990.62
Penna.	344,988.13	11,932.48	42,533.03	3,354.35	399,561.97
Totals	2,907,901.29	142,336.83	335,240.29	3,354.35	3,388,852.76
% of Total	85.8	4.2	9.9	0.1	100.0

In addition to the expenditures listed above, W.P.A. obligations for the Cambridge, Massachusetts regional office were as follows:

Source of Funds	Period	Wages of Security Wage Workers Relief	Wages of Security Wage Workers Non-Relief	Salaries of Appointees	Total Total
Massachusetts Allotment	(Calendar Year (1940	$6,998.72	0	0	6,998.72
	(7/29/35-12/31/40	47,656.71	272.25	38,065.91	55,794.87
Administrative Allotment	Calendar Year (1940	0	206.04	6,683.20	6,889.24
	(7/29/35/-12/31/40	0	206.04	21,063.73	21,269.77
Totals	(Calendar Year (1940	6,998.72	206.04	6,683.20	13,887.96
	(7/29/35-12/31/40	47,656.71	278.29	29,129.64	77,064.64

Table 64 - W.P.A. Obligations For Expenses

Calendar Year 1940

State	Purchases	Travel Vouchers		Total
		Appointees	Relief Laborers	
Maine	3,516.21	457.01	1,204.61	$5,177.83
N. H.	3,276.92	196.51	1,271.96	4,745.39
Vt.	3,037.67	472.75	103.36	3,613.78
Mass.	2,255.22	143.01	-	2,398.23
R. I.	66.62	14.87	-	81.49
N. Y.	5,322.43	609.78	196.96	6,129.17
Penna.	2,131.98	445.60	850.71	3,428.29
Totals	19,607.05	2,339.53	3,627.60	25,574.18
% Total	76.7	9.1	14.2	100.0

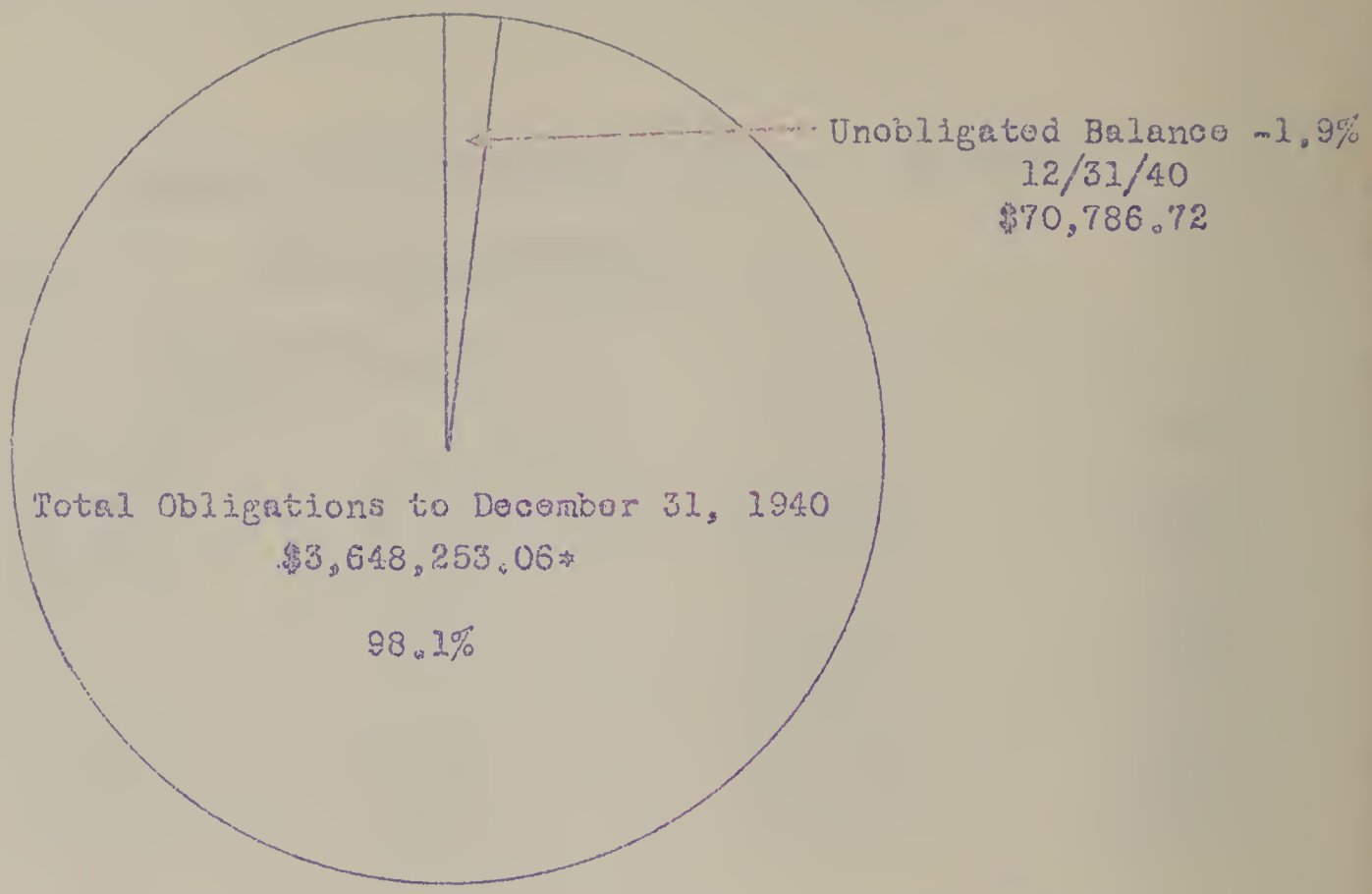
July 29, 1935 to December 31, 1940

Maine	19,515.28	9,847.60	17,432.05	46,794.93
N. H.	12,901.46	6,528.77	15,733.34	35,163.57
Vt.	14,269.56	6,621.59	3,725.03	24,616.18
Mass.	11,849.50	2,562.05	351.64	14,763.19
R. I.	98.18	23.24	556.96	678.38
Conn.	3,350.29	2,312.53	1,390.18	7,053.00
N. Y.	25,866.02	6,909.14	4,174.61	36,949.77
N. J.	131.23	181.52	-	312.75
Penna.	10,696.89	6,481.88	8,570.95	25,749.72
Totals	98,678.41	41,468.32	51,934.76	192,081.49
% Total	51.4	21.6	27.0	100.0

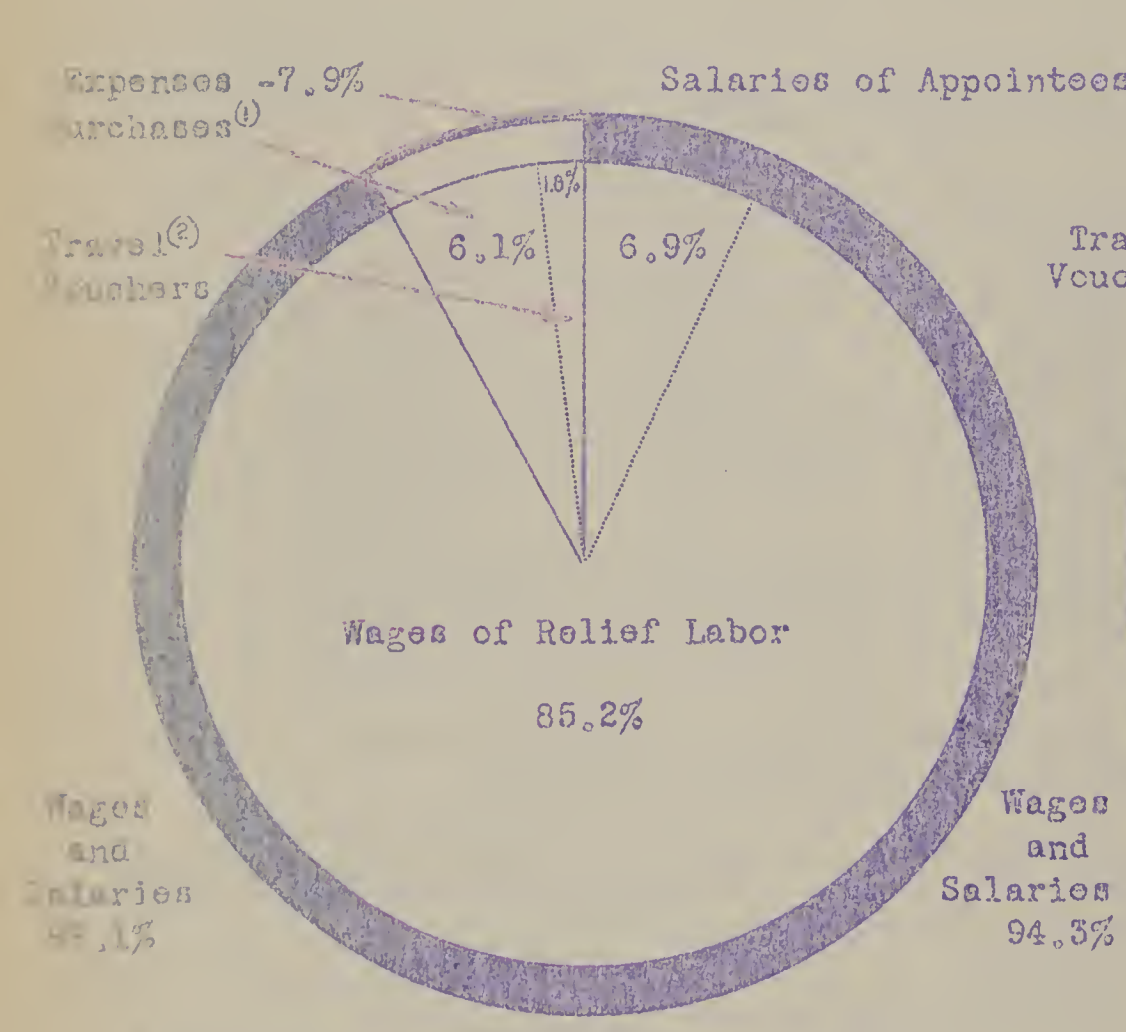
In addition to the obligations listed above W.P.A. expenses for the Cambridge, Massachusetts regional office were incurred as follows:

Source of Funds	Calendar Year 1940	July 29, 1935 to Dec. 31, 1940
Massachusetts Allotments.....	$1,385.81	$14,898.29
Administrative Allotments....	341.35	6,139.71
Totals.....	1,727.16	21,038.00

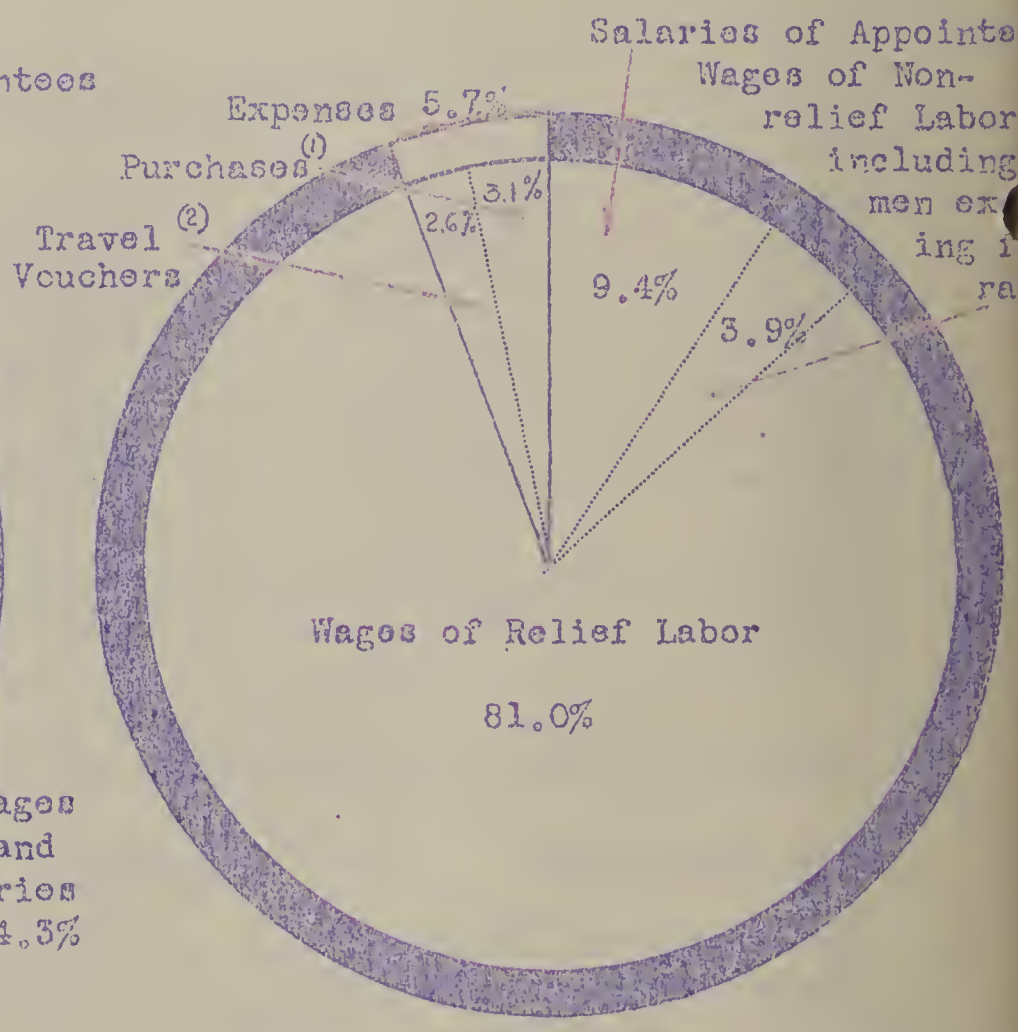
W.P.A. FUNDS FOR BLISTER RUST CONTROL IN NORTHEASTERN STATES



Total W.P.A. Allotments - 1935 to December 19, 1940, Inclusive - $3,719,039.78



Total Obligations - Calendar Year 1940
$340,090.91



Total Obligations -1935 to 1940, Inclusive
$3,648,253.06

* In addition $33,772.56 administrative funds were made available as of December 17, 1940 of which $30,763.83 was obligated to December 31, 1940.

(1) Supplies, materials and equipment (1034 vouchers).

(2) Travel, subsistence and miscellaneous (1012 vouchers) for all supervisory personnel and W.P.A. employees.

BLISTER RUST CONTROL ACTIVITIES UNDER STATE AND LOCAL W.P.A. PROGRAMS

The special blister rust control project which has been operating under the State W.P.A. Program in Connecticut since 1936 was continued throughout the calendar year 1940. Control activities under the W.P.A. Program in Connecticut have been restricted to this state project since July 1, 1939 when the federal agency project was terminated.

An average of 45 laborers were used on the field work during 1940 under the direction of two district supervisors, one of these men being employed only during May and June. Four additional W.P.A. employees were assigned to clerical, drafting, and stenographic work in the office. A state supervisor was also employed to give direct supervision to the entire project and handle all administrative matters. Two checkers paid from state funds, spent all of their time during the eradication season checking the work of the W.P.A. and C.C.C. crews. The state blister rust control leader cooperated in developing plans for the State W.P.A. project and giving technical supervision to the field activities.

During the period from January to May 5, 1940, field work under this state project in Connecticut was restricted to pine and control area mapping. All of the field force was assigned to Ribes eradication work from May 6 to September 19, 1940. Mapping was the major field project during the remainder of the calendar year, but a few of the W.P.A. employees assisted on a special volume table study in November and December. The results of the 1940 Ribes eradication and mapping work are summarized in this report, but the state leader will submit a special report on the volume table study. This project under the State W.P.A. Program in Connecticut was terminated at the end of December, 1940.

Table 65 summarizes the results of the 1940 Ribes eradication work under the State W.P.A. Program in Connecticut. The acreage examined for Ribes under this Program represents 5.4 percent of the total acreage worked in the Northeastern States in 1940.

Table 65 - Summary of Ribes Eradication Work Under State W.P.A. Program in Connecticut During 1940

Type of Erad.	Total Acreage		No. Ribes Pulled		Total Man Days	Cost			Per Acre		
	Worked	Pine Protected	Wild	Cult.		Towns	W.P.A.	Total	Cost	Ribes	Man Days
Initial	15,582	1,260	121,976	124	853	244.11	3662.62	3,906.73	.251	7.8	.05
Re-Erad.	22,559	3,979	150,926	35	1787	1582.06	6842.24	8,424.30	.373	6.7	.08
Total	38,141	5,239	272,902	159	2640	1826.17	10,504.86	12,331.03	.323	7.2	.07

Basis of costs: Includes total cost of laborers and foremen employed in locating and pulling Ribes; transportation of crews; and miscellaneous expenses for trail paper, picks, etc. Cost of supervisors and checkers assigned to project not included.

In addition to the blister rust control project under the State W.P.A. Program in Connecticut during the period 1936 - 1940, inclusive, a special project was conducted in 1938 under the State W.P.A. Program in Pennsylvania where 50 laborers were employed on Ribes eradication work at the Cook State Forest during the period June 14 to September 30. A small local W.P.A. project was also carried on in one New York district during 1937. Table 66 summarizes the total Ribes eradication accomplishments on these three state and local W.P.A. projects, by years and states.

Table 66 - Summary of Ribes Eradication Work Under State and Local W.P.A. Programs in Northeastern States During Period 1936-1940, Inclusive
(By Years)

Yr	Type of Erad.	Total Acreage Worked	Total Acreage Pine Protected	Ribes Pulled Wild	Ribes Pulled Cult.	Total Man Days	Cost Local Coop.	Cost State	Cost W.P.A.	Cost Total	Per Acre Cost	Per Acre Ribes
	Initial	1,989	215	1,396	97	465	346.00	32.35	1,838.98	2,217.33	1.11	0.7
36	Re-Erad.	-	-	-	-	-	-	-	-	-	-	-
	Total	1,989	215	1,396	97	465	346.00	32.35	1,838.98	2,217.33	1.11	0.7
	Initial	1,481	288	690	68	278	188.00	-	1,154.08	1,342.08	.906	0.5
37	Re-Erad.	26,555	4,348	43,013	301	1871	116.25	24.05	8,750.98	8,891.28	.335	1.6
	Total	28,036	4,636	43,703	369	2149	304.25	24.05	9,905.06	10,233.36	.365	1.6
	Initial	6,588	536	920,275	1590	2783	263.60	-	12,323.62	12,587.22	1.91	139.7
38	Re-Erad.	17,760	2,652	228,226	644	3491	1506.25	-	16,312.09	17,818.34	1.00	12.8
	Total	24,348	3,188	1,148,501	2234	6274	1769.85	-	28,635.71	30,405.56	1.25	47.2
	Initial	22,570	2,663	135,592	336	2061	611.83	-	9,012.84	9,624.67	.426	6.0
39	Re-Erad.	18,425	3,195	82,021	321	1439	224.70	-	7,232.22	7,456.92	.405	4.5
	Total	40,995	5,858	217,613	657	3500	836.53	-	16,245.06	17,081.59	.417	5.3
	Initial	15,582	1,260	121,976	124	853	244.11	-	3,662.62	3,906.73	.251	7.8
40	Re-Erad.	22,559	3,979	150,926	35	1787	1582.06	-	6,842.24	8,424.30	.373	6.7
	Total	38,141	5,239	272,902	159	2640	1826.17	-	10,504.86	12,331.03	.323	7.2
	Initial	48,210	4,962	1,179,929	2,215	6440	1653.54	32.35	27,992.14	29,678.03	.616	24.5
Totals	Re-Erad.	85,299	14,174	504,186	1,301	8588	3429.26	24.05	39,137.53	42,590.84	.499	5.9
	Total	133,509	19,136	1,684,115	3,516	15028	5082.80	56.40	67,129.67	72,268.87	.541	12.6

By States

	Initial	45,895	4,962	264,696	2,215	4447	1653.54	32.35	19,858.14	21,544.03	.469	5.7
.	Re-Erad.	84,535	14,084	422,070	1,301	8173	3349.01	24.05	37,546.63	40,919.69	.484	5.0
	Total	130,430	19,046	686,766	3,516	12620	5002.55	56.40	57,404.77	62,463.72	.479	5.3
..	All Re.	135	90	12,915	-	104	80.25	-	324.90	405.15	3.00	95.7
	Initial	2,315	-	915,233	-	1993	-	-	8,134.00	8,134.00	3.51	395.3
a.	Re-Erad.	629	-	69,201	-	311	-	-	1,266.00	1,266.00	2.01	110.0
	Total	2,944	-	984,434	-	2304	-	-	9,400.00	9,400.00	3.19	334.3
	Initial	48,210	4,962	1,179,929	2,215	6440	1653.54	32.35	27,992.14	29,678.03	.616	24.5
Totals	Re-Erad.	85,299	14,174	504,186	1,301	8588	3429.26	24.05	39,137.53	42,590.84	.499	5.9
	Total	133,509	19,136	1,684,115	3,516	15028	5082.80	56.40	67,129.67	72,268.87	.541	12.6

Basis of costs: Same as Table 65.

Nursery Sanitation - State W.P.A. Program

A few of the W.P.A. laborers assigned to the blister rust control project under the State W.P.A. Program in Connecticut spent 13 man days during 1940 on nursery sanitation work in the environs of one state nursery. A total of 1169 acres was examined (re-eradication work) and only 13 wild Ribes located and destroyed. W.P.A. expenditures for wages amounted to $60.98 while one town contributed $25.15, making a total cost of $86.13.

Table 67 - Summary of Nursery Sanitation Work Under State W.P.A. Program in Connecticut During Period 1936-1940, Inclusive.

Year	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Cost			Per Acre		
			Wild	Cult.		Town	W.P.A.	Total	Cost	Ribes	Man Days
1937	Re-Erad.	1,798	335	-	243	-	1,184.20	1,184.20	.659	0.2	.14
1940	"	1,169	13	-	13	25.15	60.98	86.13	.074	0.01	.01
Totals	"	2,967	348	-	256	25.15	1,245.18	1,270.33	.428	0.1	.09

Basis of costs: Same as Table 65.

Pine and Control Area Mapping - State W.P.A. Program

Pre-eradication survey work was conducted in 29 townships during 1940 under the State W.P.A. Program in Connecticut. A total of 80,782 acres was mapped as a result of 1620 man days labor. In addition, the W.P.A. employees spent 3400 man days painting 1,309 miles of control area boundaries. This painting work cost $12,647.90, or $9.66 per mile, while expenditures on the mapping work mentioned above amounted to $8,307.73 making a total cost of $20,955.63 for the 1940 pre-eradication survey work. Many townships in Connecticut have been remapped by the W.P.A. personnel during the past four years as some of the earlier work, especially under the E.R.A. Program, was not satisfactory.

Table 68 - Summary of Pine and Control Area Mapping Work Under State W.P.A. Program in Connecticut, 1936-1940, Inclusive.

Year	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Total Man Days	Cost			
					Towns	State	W.P.A.	Total
1936	36,706	-	-	580	40.70	31.68	2,851.57	2,923.95
1937	82,040	114,900	204½	4,636	-	-	25,768.16	25,768.16
1938	80,634	-	1,128	4,299	912.50	30.75	22,587.90	23,531.15
1939	63,376	-	276 ¾	2,492	1382.42	608.35	13,029.90	15,020.67
1940	80,782	-	1,309	5,020	3020.17	-	17,935.46	20,955.63
Totals	343,538	114,900	2,918¼	17,027	5355.79	670.78	82,172.99	88,199.56

Basis of costs: Includes actual cost of personnel assigned to mapping project, transportation, and expenses for mapping equipment. Cost of supervisors excluded.

Table 69 - Total Cooperative Expenditures, By Cooperating Agencies, Under State and Local W. P. A. Programs in Northeastern States

State	Year	Individuals	Towns	State	W.P.A.	Totals
Conn.	1940	-	5,029.41	447.07	40,191.90	45,668.38
	1936-1940	843.88	11,741.91	2,972.43	232,690.84	248,249.06
N.Y.	1940	-	-	-	-	-
	1936-1940	80.25	-	2.40	324.90	407.55
Penna.	1940	-	-	-	-	-
	1936-1940	-	-	508.75	9,400.00	9,908.75
Totals	1940	-	5,029.41	447.07	40,191.90	45,668.38
	1936-1940	924.13	11,741.91	3,483.58	242,415.74	258,565.36

Table 70 - Total Cooperative Expenditures, By Projects, Under State and Local W.P.A. Programs in Northeastern States.

State	Year	Ribes Eradication	Eradication Assistants and Checkers	Nursery Sanitation	Mapping		Field Studies	Total
					Pine and Control Area	Blown-Down Timber		
Conn.	1940	12,331.03	11,131.45	86.13	20,955.63	-	1,164.14	45,668.38
	1936-1940	62,463.72	28,224.63	1,270.33	88,199.56	7,553.46	60,537.36	248,249.06
N.Y.	1940	-	-	-	-	-	-	-
	1936-1940	405.15	2.40	-	-	-	-	407.55
Penna.	1940	-	-	-	-	-	-	-
	1936-1940	9,400.00	508.75	-	-	-	-	9,908.75
Totals	1940	12,331.03	11,131.45	86.13	20,955.63	-	1,164.14	45,668.38
	1936-1940	72,268.87	28,735.78	1,270.33	88,199.56	7,553.46	60,537.36	258,565.36

BLISTER RUST CONTROL ACTIVITIES UNDER S.C.S. PROGRAM IN NORTHEASTERN STATES

Control work under the S.C.S. Program during 1940 was limited to Rhode Island where an average of 48 enlisted men and two technical foremen from two S.C.S. camps were assigned to Ribes eradication work in two townships from May 20 to September 30. Practically all of the areas examined for Ribes were publically-owned. White pine had been recently planted on several sites in the 1940 control areas and additional plantings are planned in the near future.

Table 71 - Summary of Ribes Eradication Work Under S.C.S. Program in Northeastern States During 1940.

State	Type of Erad.	Acreage		Ribes Pulled (All Wild)	Total Man Days	Cost			Per Acre		
		Total Worked	Pine Protected			State	S.C.S.	Total	Cost	Ribes	Man Days
R.I.	Initial	3,500	112	777	520	3.18	1128.14	1131.32	.323	0.2	.15
	Re-Erad.	9,314	4,645	2,170	1,794	10.88	3880.41	3891.29	.418	0.2	.19
	Total	12,814	4,757	2,947	2,314	14.06	5008.55	5022.61	.392	0.2	.18

Basis of Costs: Includes actual working time of enlisted personnel figured at rate of $1.50 per six hour working day, cost of crew transportation, and trail paper. Man days data computed by dividing actual working hours by eight.

Supervision of 1940 Ribes Eradication Work - S.C.S. Program

A charge of $786.39 was made for the 118 man days the two S.C.S. technical foremen spent supervising the Ribes eradication project.

Table 72 - Summary of Ribes Eradication Work Conducted Under S.C.S. Program in Northeastern States During Period 1936-1940, Inclusive.

By Years

Year	Type of Erad.	Total Acreage		Ribes Pulled		Total Man Days	Cost				Per Acre		
		Worked	Pine Protected	Wild	Cult.		State	W.P.A.	S.C.S.	Total	Cost	Ribes	Man Days
1936	Initial	4,112	143	67,793	155	1,632	-	-	2,529.65	2,529.65	.615	16.5	.40
	Re-Erad	214	26	2,190	-	410	-	-	635.73	635.73	2.97	10.2	1.92
	Total	4,326	169	69,983	155	2,042	-	-	3,165.38	3,165.38	.732	16.2	.47
1937	Initial	2,921	1,206	149,324	45	1,974	603.04	245.76	2,970.52	3,819.32	1.31	51.1	.68
1938	Initial	5,178	1,353	241,357	16	3,828	1,156.00	-	5,670.41	6,826.41	1.32	46.6	.74
	Re-Erad	255	85	10,457	-	191	84.80	-	274.25	359.05	1.41	41.0	.75
	Total	5,433	1,438	251,814	16	4,019	1,240.80	-	5,944.66	7,185.46	1.32	46.3	.74
1939	Initial	4,740	318	192,193	144	1,990	-	-	4,305.70	4,305.70	.908	40.5	.42
	Re-Erad	337	60	4,013	-	90	-	-	200.06	200.06	.594	11.9	.27
	Total	5,077	378	196,206	144	2,080	-	-	4,505.76	4,505.76	.887	38.6	.41
1940	Initial	3,500	112	777	-	520	3.18	-	1,128.14	1,131.32	.323	0.2	.15
	Re-Erad	9,314	4,645	2,170	-	1,794	10.88	-	3,880.41	3,891.29	.418	0.2	.19
	Total	12,814	4,757	2,947	-	2,314	14.06	-	5,008.55	5,022.61	.392	0.2	.18
Totals	Initial	20,451	3,132	651,444	360	9,944	1,762.22	245.76	16,604.42	18,612.40	.910	31.9	.49
	Re-Erad	10,120	4,816	18,830	-	2,485	95.68	-	4,990.45	5,086.13	.503	1.9	.25
	Total	30,571	7,948	670,274	360	12,429	1,857.90	245.76	21,594.87	23,698.53	.775	21.9	.41

By States

R. I.	Initial	3,500	112	777	-	520	3.18	-	1,128.14	1,131.32	.323	0.2	.15
	Re-Erad.	9,314	4,645	2,170	-	1,794	10.88	-	3,880.41	3,891.29	.418	0.2	.19
	Total	12,814	4,757	2,947	-	2,314	14.06	-	5,008.55	5,022.61	.392	0.2	.18
N. Y.	Initial	8,425	2,690	369,380	205	5,013	1,759.04	245.76	8,168.04	10,172.84	1.21	43.8	.60
	Re-Erad.	592	145	14,470	-	281	84.80	-	474.31	559.11	.944	24.4	.47
	Total	9,017	2,835	383,850	205	5,294	1,843.84	245.76	8,642.35	10,731.95	1.19	42.6	.59
Penna.	Initial	8,526	330	281,287	155	4,411	-	-	7,308.24	7,308.24	.857	33.0	.52
	Re-Erad.	214	26	2,190	-	410	-	-	635.73	635.73	2.97	10.2	1.92
	Total	8,740	356	283,477	155	4,821	-	-	7,943.97	7,943.97	.909	32.4	.55
Totals	Initial	20,451	3,132	651,444	360	9,944	1,762.22	245.76	16,604.42	18,612.40	.910	31.9	.49
	Re-Erad.	10,120	4,816	18,830	-	2,485	95.68	-	4,990.45	5,086.13	.503	1.9	.25
	Total	30,571	7,948	670,274	360	12,429	1,857.90	245.76	21,594.87	23,698.53	.775	21.9	.41

Basis of costs: - Same as Table 24 on Page 41.

Nursery Sanitation - S.C.S. Program

No nursery sanitation work was performed under the S.C.S. Program in the Northeastern States during 1940.

Table 73 summarizes the results of sanitation work under the S.C.S. Program, by years and by states; during the period 1936-1940, inclusive.

Table 73 - Summary of Nursery Sanitation Work Conducted Under S.C.S. Program in Northeastern States During Period 1936-1940, Inclusive.

By Years

Year	Type of Erad.	Acreage Worked	Ribes Pulled		Total Man Days	Cost				Per Acre		
			Wild	Cult.		State	B. E. and P. Q.	S.C.S.	Total	Cost	Ribes	Man Days
1936	Initial	195	1,538	65	102	77.25	-	228.00	305.25	1.57	7.9	.52
1937	Re-Erad.	250	146	-	8½	42.00	29.54	2.25	73.79	.295	0.6	.03
1938	Initial	215	0	3	19	29.00	-	55.30	84.30	.392	0	.09
	Re-Erad.	5,538	299	0	25	62.40	-	48.15	110.55	.020	0.05	.004
	Total	5,753	299	3	44	91.40	-	103.45	194.85	.034	0.05	.01
1939	Re-Erad.	5,600	72	1	21	62.40	-	32.40	94.80	.017	0.01	.003
Totals	Initial	410	1,538	68	121	106.25	-	283.30	389.55	.950	3.8	.30
	Re-Erad.	11,388	517	1	54½	166.80	29.54	82.80	279.14	.025	0.05	.004
	Total	11,798	2,055	69	175½	273.05	29.54	366.10	668.69	.057	0.2	.01

By States

N.Y.	Re-Erad.	11,138	371	1	46	124.80	-	80.55	205.35	.018	0.03	.004
N.J.	Initial	195	1,538	65	102	77.25	-	228.00	305.25	1.57	7.9	.52
	Re-Erad.	250	146	-	8½	42.00	29.54	2.25	73.79	.295	0.6	.03
	Total	445	1,684	65	110½	119.25	29.54	230.25	379.04	.852	3.8	.25
Penna.	Initial	215	0	3	19	29.00	-	55.30	84.30	.392	0	.09
Totals	Initial	410	1,538	68	121	106.25	-	283.30	389.55	.950	3.8	.30
	Re-Erad	11,388	517	1	54½	166.80	29.54	82.80	279.14	.025	0.05	.004
	Total	11,798	2,055	69	175½	273.05	29.54	366.10	668.69	.057	0.2	.01

Basis of costs: Same as Table 24 on Page 41.

Table 74 - Total Expenditures, By Cooperating Agencies, Under S.C.S. Program in Northeastern States 1936-1940, Inclusive

State	Year	State Funds	B.E. & P.Q.	W.P.A.	S.C.S.	Totals
R. I.	1940	14.06	-	-	5,797.19	5,811.25
	1936-1940	14.06	-	-	5,797.19	5,811.25
N. Y.	1940	-	-	-	-	-
	1936-1940	4,374.21	-	515.54	8,912.27	13,802.02
N. J.	1940	-	-	-	-	-
	1936-1940	119.25	29.54	-	230.25	379.04
Penna.	1940	-	-	-	-	-
	1936-1940	178.60	-	-	9,613.27	9,791.87
Totals	1940	14.06	-	-	5,797.19	5,811.25
	1936-1940	4,686.12	29.54	515.54	24,552.98	29,784.18

Table 75 - Total Cooperative Expenditures, By Projects, Under S.C.S. Program in Northeastern States, 1936-1940, Inclusive.

State	Year	Ribes Eradication	Eradication Assistants and Checkers	Nursery Sanitation	Field Data (General)	Total
R. I.	1940	5,022.61	786.39	-	2.25	5,811.25
	1936-1940	5,022.61	786.39	-	2,25	5,811.25
N. Y.	1940	-	-	-	-	-
	1936-1940	10,731.95	2,864.72	205.35	-	13,802.02
N. J.	1940	-	-	-	-	-
	1936-1940	-	-	379.04	-	379.04
Penna.	1940	-	-	-	-	-
	1936-1940	7,943.97	1,763.60	84.30	-	9,791.87
Totals	1940	5,022.61	786.39	-	2.25	5,811.25
	1936-1940	23,698.53	5,414.71	668.69	2.25	29,784.18

BLISTER RUST CONTROL ACTIVITIES AND ACCOMPLISHMENTS

UNDER ALL PROGRAMS IN THE NORTHEASTERN STATES

DURING 1940

Table 76 - Personnel Employed on Blister Rust Control Work in Northeastern States During 1940

State			Maine	N. H.	Vt.	Mass.	R.I.	Conn.	N.Y.	Penna.	Total
State Leaders			1	1	1	1	1	1	1	1	8
District Leaders			4	5	3	4	-	(1) 1	8	3	28
Supervisors, Technical Foremen, and Checkers	Regular		-	-	-	-	-	-	-	5	5
	C.C.C.		17	2	4	3	2	(2) 9	27	36	100
	Federal W.P.A.		(3) 4	2	-	-	-	-	(3) 17	-	23
	State W.P.A.		-	-	-	-	-	3	-	-	3
	S.C.S.		-	-	-	-	2	-	-	-	2
	Total		21	4	4	3	4	12	44	41	135
Foremen, Scouts, Laborers, and Clerks	Regular		77	295	-	19	-	1	96	42	531
	C.C.C.		167	21	86	29	37	131	276	614	1,361
	Federal W.P.A.	W.P.A.	195	192	128	144	18	-	332	120	1,129
		Others	32	-	-	1	-	-	38	-	71
	State W.P.A.		-	-	-	-	-	49	-	-	49
	S.C.S.		-	-	-	-	48	-	-	-	48
	Total		471	508	214	193	103	181	742	776	3,188
Total			497	518	222	201	108	195	795	821	3,357

(1) Includes one state agent who assisted state leader on supervisory work.
(2) Includes two state checkers who also assisted on work under State W.P.A. Program.
(3) Personnel listed for W.P.A. Program also assisted in supervision of control activities under Regular Cooperative Program.

The number of men actually engaged on blister rust control work was greater than the number indicated in the above table since the figures for the C.C.C. enlisted personnel are based on the average number of men employed during the period work was performed at each camp. During 1940, a total of 82 individual owners paid for control work on their properties or provided necessary labor. Several hundred other persons permitted the destruction of their cultivated bushes without compensation and hundreds of others gave general support to the control program.

Table 77 - Summary of Ribes Eradication Work Conducted Under All Programs in Northeastern States During 1940

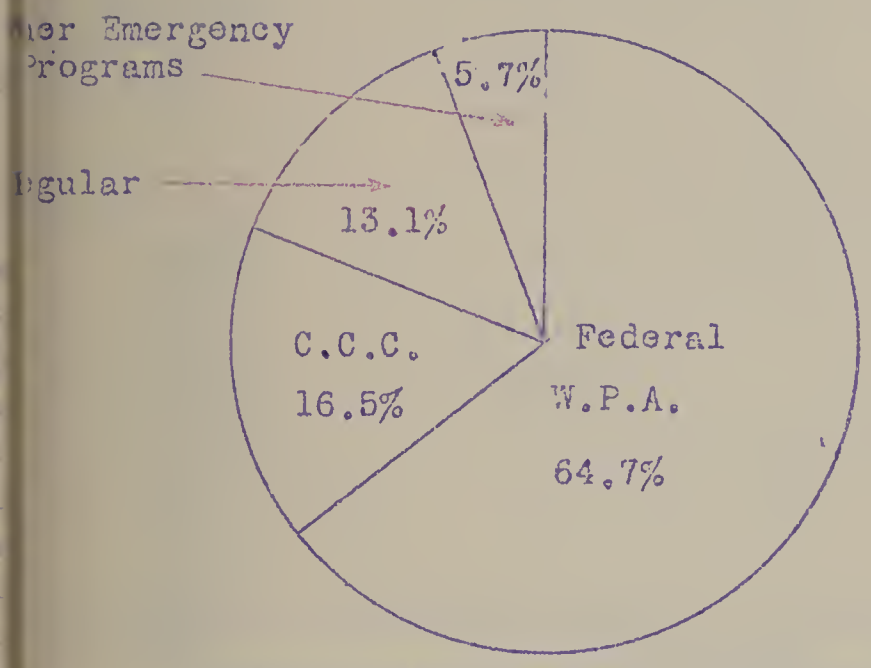
(Excludes nursery sanitation and cultivated black currant elimination)

Program		Regular Cooperative	C.C.C.	Federal W.P.A.	State W.P.A.	S.C.S.	Total
Total	Initial	44,089	55,486	217,707	15,582	5,500	336,364
Acreage	Re-Erad.	46,642	102,390	184,569	22,559	9,314	365,474
Worked	Total	90,731	157,876	402,276	38,141	12,814	701,838
Acreage	Initial	17,881	13,943	76,624	1,260	112	109,825
Pine	Re-Erad.	21,192	30,076	83,365	3,979	4,645	143,257
Protected	Total	39,073	44,024	159,989	5,239	4,757	253,082
Wild Ribes Pulled		1,253,524	2,107,494	7,354,404	272,902	2,947	10,971,271
Cult. Ribes Pulled		917	5,169	6,103	159	-	12,348
Total man days		10,545	57,577	66,163	2,640	2,314	139,239
Total Cost	Individuals	2,511.57	-	9.20	-	-	2,520.77
	Towns	12,918.63	-	5,626.56	1,826.17	-	20,373.36
	Counties	8,110.80	-	-	-	-	8,110.80
	State	16,330.15	70.09	13,707.11	-	14.06	30,122.21
	C.C.C.	-	127,258.98	-	-	-	127,258.98
	Federal W.P.A.	-	-	217,076.22	-	-	217,076.22
	State & Local WPA	-	-	-	10,504.86	-	10,504.86
	S.C.S.	-	-	-	-	5,008.55	5,008.55
	Total	39,871.15	127,329.87	236,421.09	12,331.03	5,022.61	420,975.75
Cost per Acre	Cost	.439	.807	.588	.323	.392	.600
	Ribes	13.6	13.3	18.5	7.2	0.2	15.6
	Man Days	.12	.36	.16	.07	.18	.20

RIBES ERADICATION PERFORMED UNDER LACEY PROGRAM IN THE NORTHEASTERN STATES DURING CALENDAR YEAR 1940

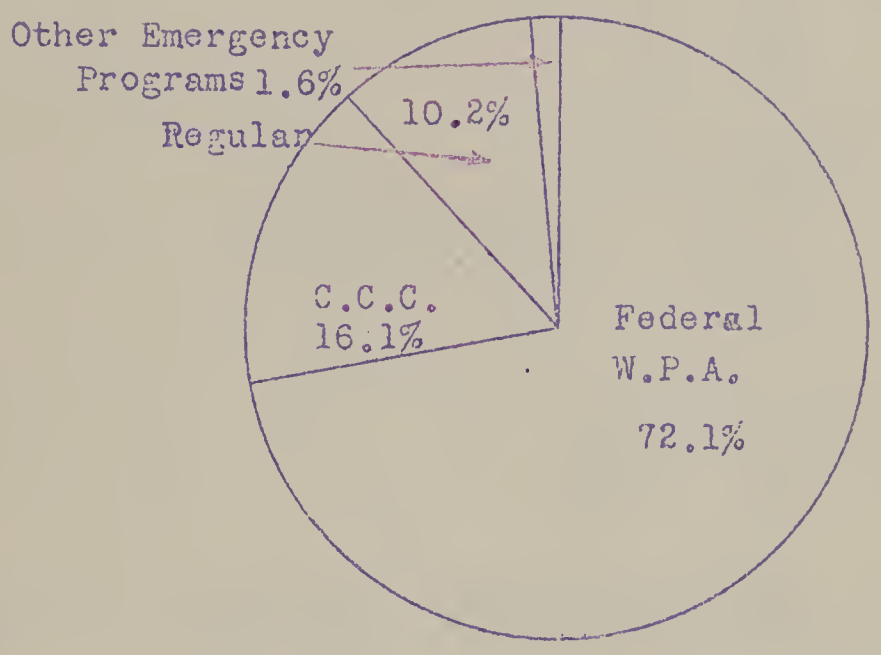
(Excludes Nursery Sanitation and Cultivated Black Currant Elimination)

Percentage of Total Acreage Cleared of Ribes Initial Eradication



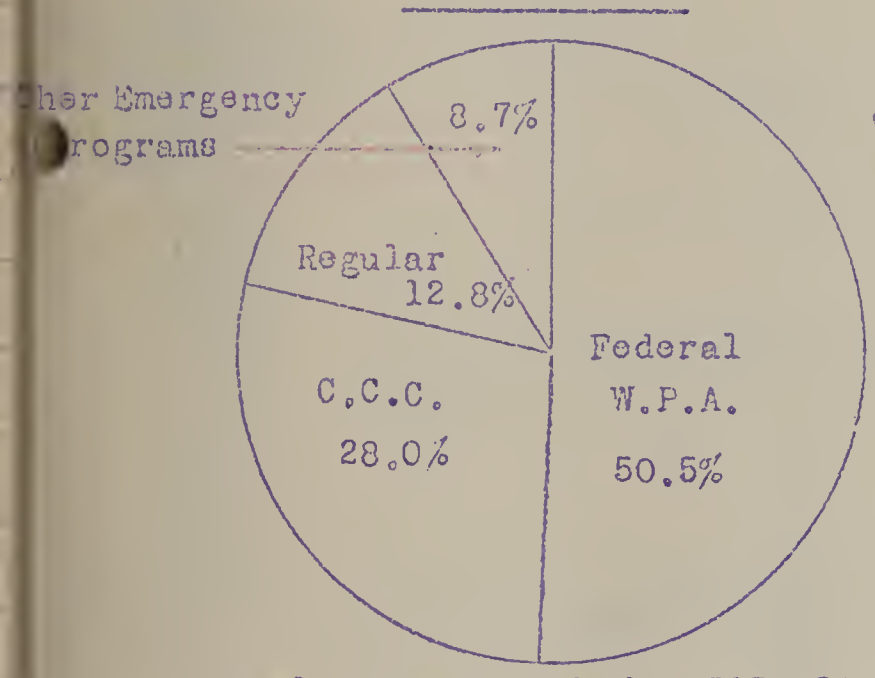
Total Acreage Worked - 336,364

Percentage of Total Wild Ribes Destroyed Initial Eradication



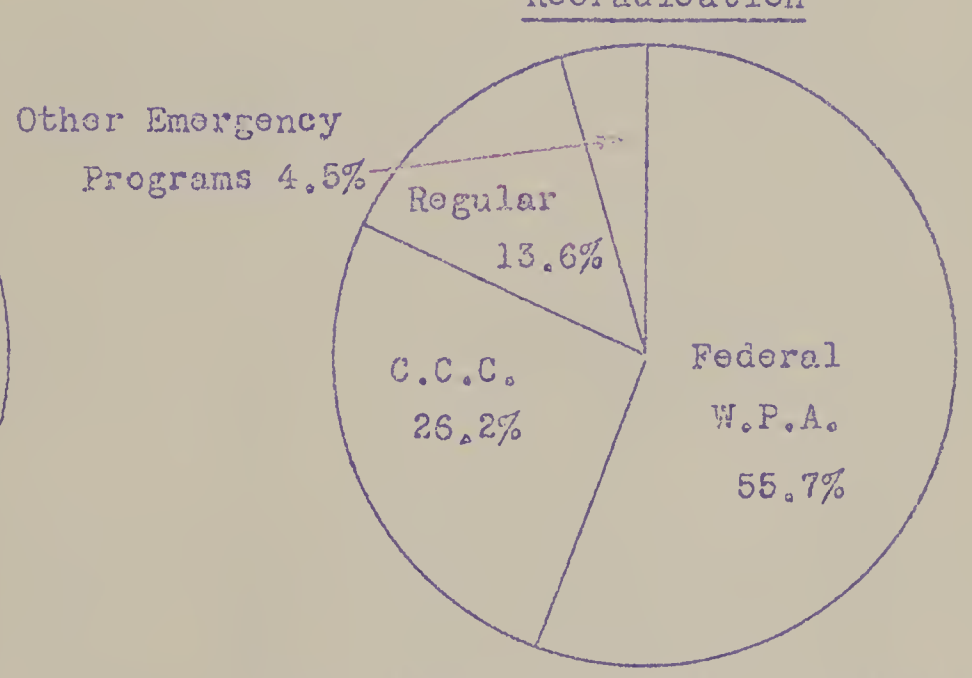
Total Number of Ribes - 7,578,673

Reeradication



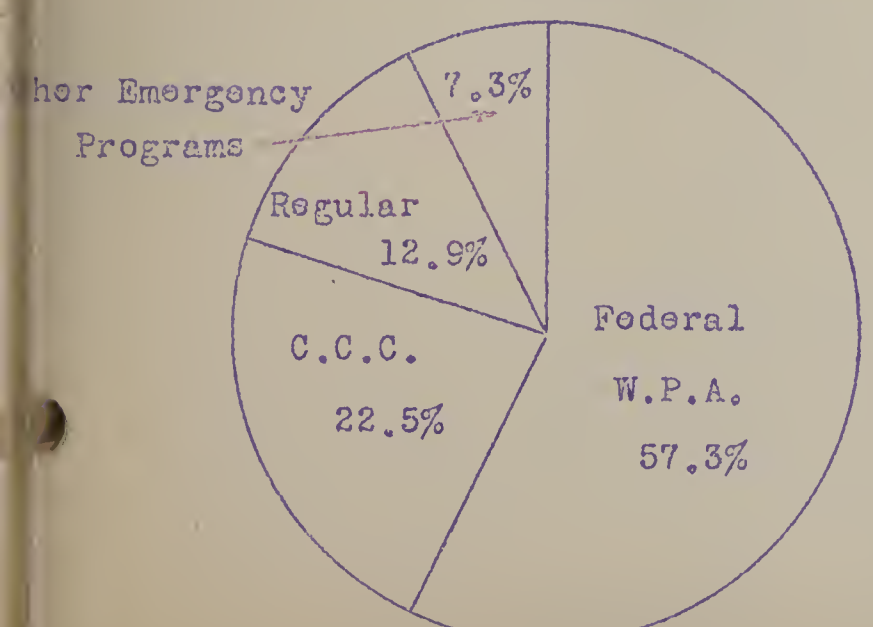
Total Acreage Worked - 365,474

Reeradication



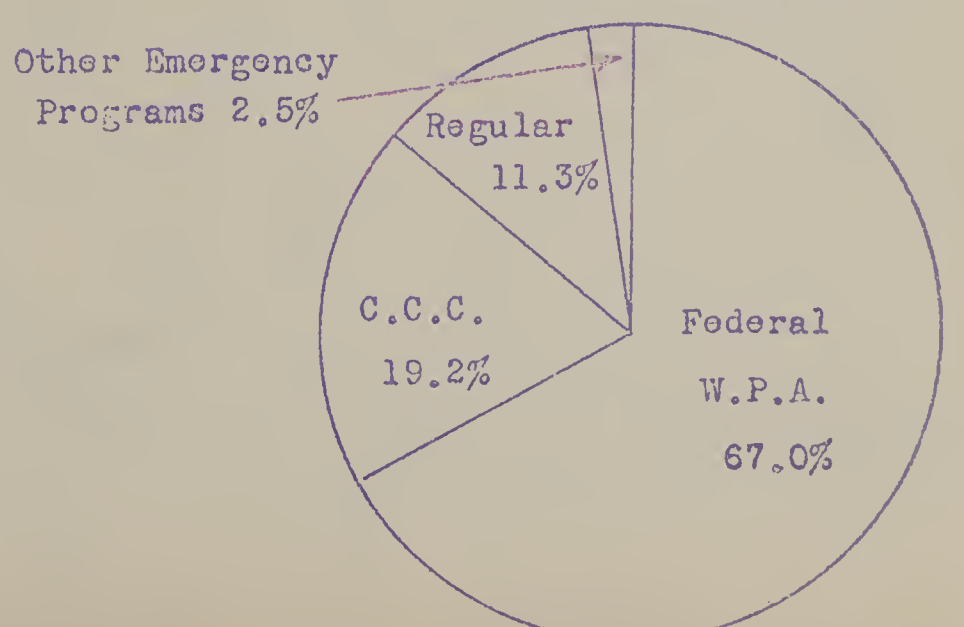
Total Number of Ribes - 3,404,946

Initial & Reeradication



Total Acreage Worked - 701,838

Initial & Reeradication

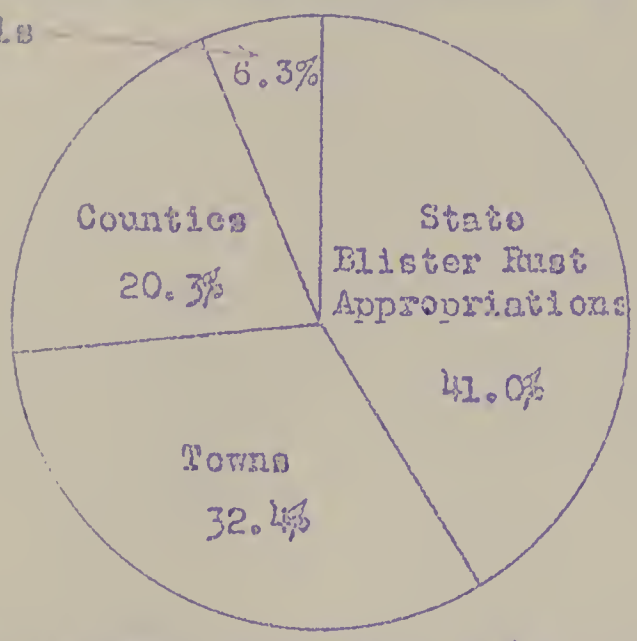


Total Number of Ribes - 10,983,619

SOURCE OF TOTAL FUNDS SPENT ON PROJECT "RIBES ERADICATION" UNDER EACH PROGRAM IN NORTHEASTERN STATES CALENDAR YEAR 1940

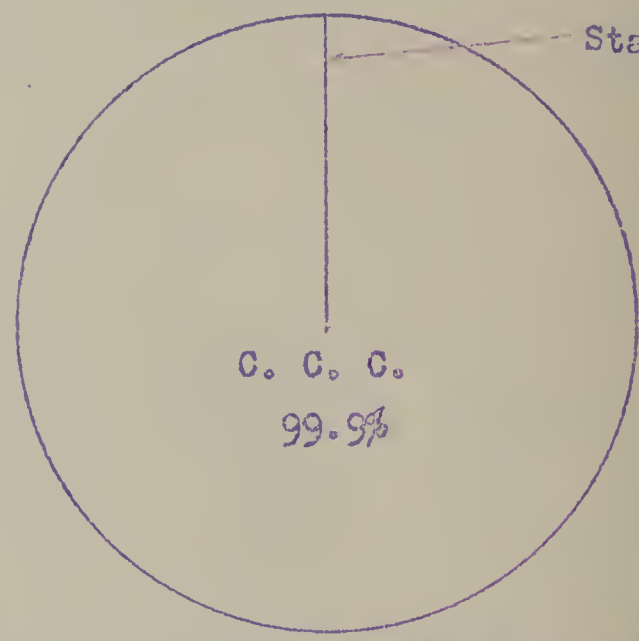
(Excludes Nursery Sanitation and Cultivated Black Currant Elimination)

Regular Cooperative Program



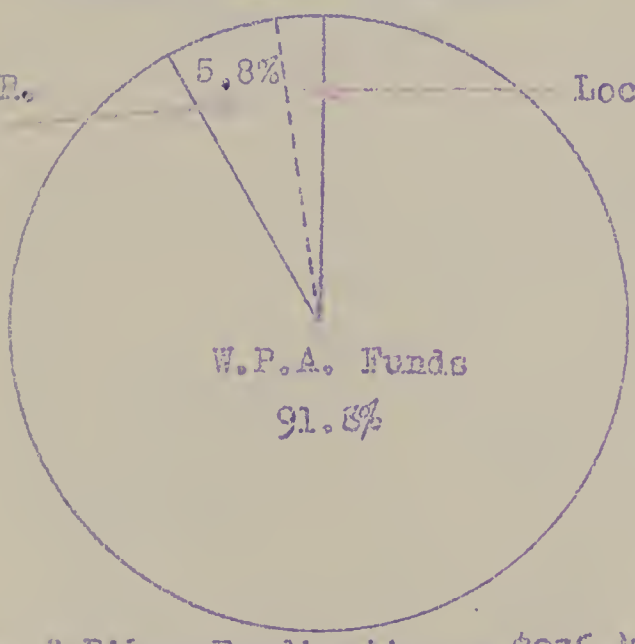
Total Cost of Ribes Eradication - $39,871.15

C.C.C. Program



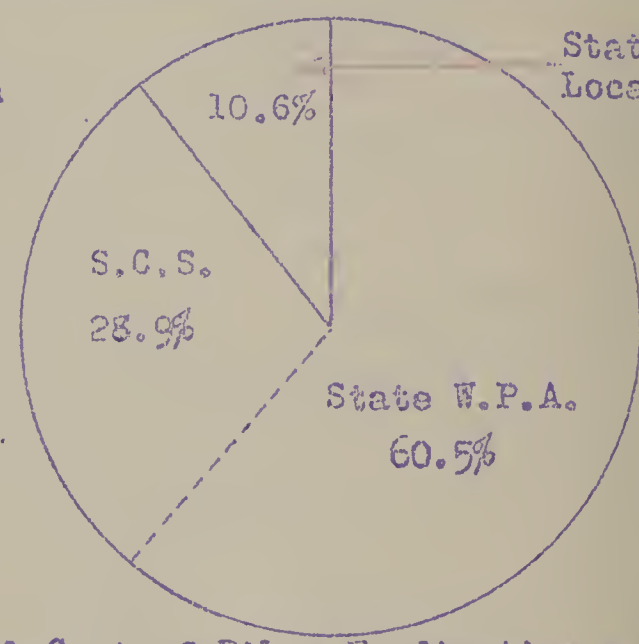
Total Cost of Ribes Eradication - $127,329.8

Federal W.P.A. Program



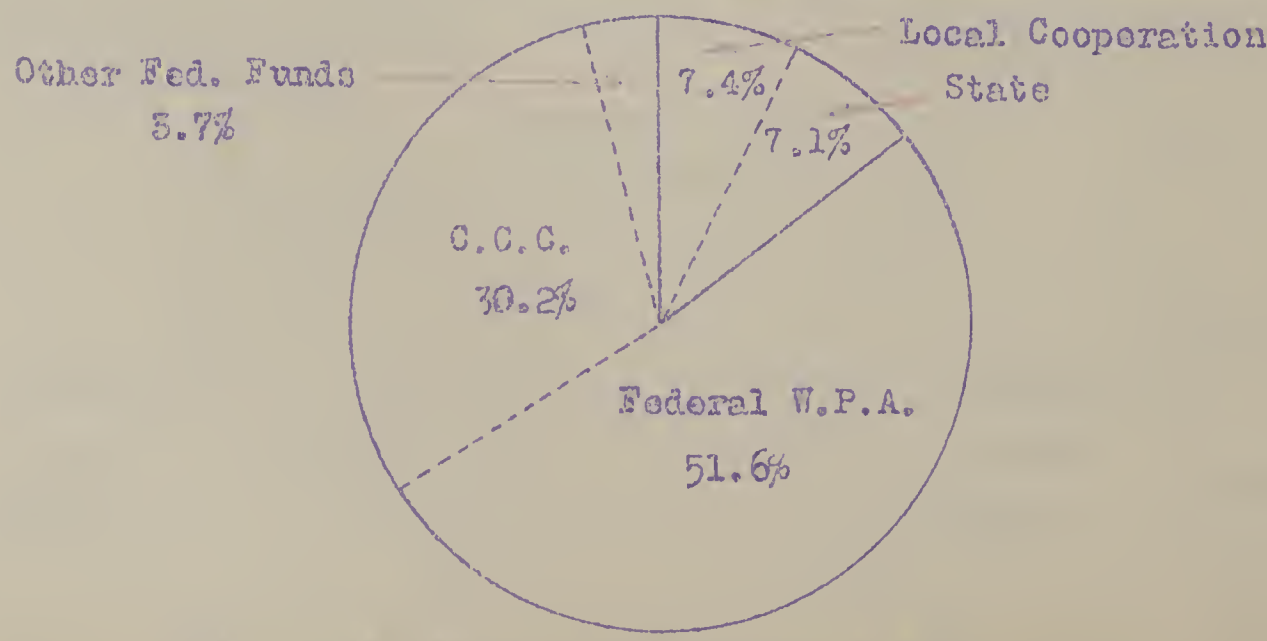
Total Cost of Ribes Eradication - $236,421.09

Other Federal Emergency Programs



Total Cost of Ribes Eradication - $17,353.64

All Programs



Total Cost of Ribes Eradication - $420,975.75

Table 78 -Summary of Initial Ribes Eradication Work Performed Under All Progrems in Northeastern States During 1940

(By States)

State		Maine	N. H.	Vt.	Mass.	R.I.	Conn.	N. Y.	Penna.	Totals
Total acreage worked		38,476	19,171	23,905	29,819	3,500	15,582	154,330	51,561	336,364
Acreage pine protected		12,323	12,125	4,120	7,459	112	1,260	63,999	8,427	109,825
Ribes pulled	Wild	897,608	794,698	741,399	143,103	777	121,976	3,052,208	1,817,837	7,569,606
	Cult.	662	635	320	311	-	124	2,457	4,558	9,067
Total man days		9,935	5,235	7,258	3,293	520	853	22,472	20,426	69,992
Cost	Individuals	-	-	-	2,065.77	-	-	393.90	-	2,459.67
	Towns	1,368.10	1,793.10	1,276.08	292.20	-	244.11	-	-	4,973.59
	Counties	-	-	-	-	-	-	6,503.15	-	6,503.15
	State	374.24	467.96	-	337.63	3.18	-	14,500.32	-	15,683.33
	C.C.C.	10,638.78	1,483.92	4,778.91	2,700.81	-	-	8,049.19	29,794.90	57,446.51
	Federal W.P.A.	16,105.86	13,306.21	16,273.12	5,278.21	-	-	52,301.99	22,201.19	125,466.58
	State W.P.A.	-	-	-	-	-	3,662.62	-	-	3,662.62
	S.C.S.	-	-	-	-	1,128.14	-	-	-	1,128.14
	Total	28,486.98	17,051.19	22,328.11	10,674.62	1,131.32	3,906.73	81,748.55	51,996.09	217,323.59
Per Acre	Cost	.740	.889	.934	.358	.323	.251	.530	1.01	.646
	Ribes	23.3	41.5	31.0	4.8	0.2	7.8	19.8	35.2	22.5
	Man Days	.26	.27	.30	.11	.15	.05	.15	.40	.21

Table 79 - Summary of Re-Irradiation Work Performed Under All Programs in Northeastern States During 1940

(By States)

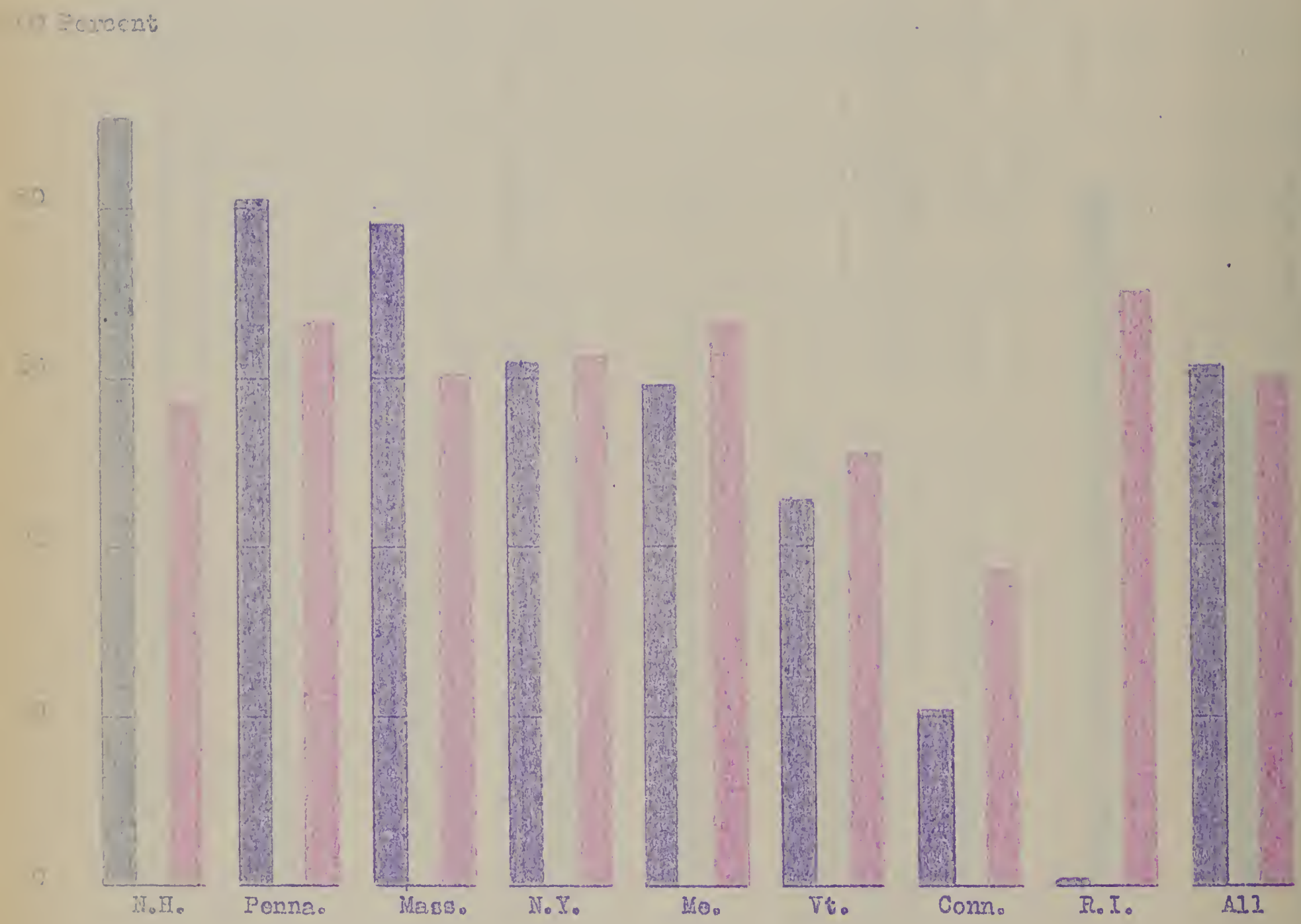
States		Maine	N. H.	Vt.	Mass.	R. I.	Conn.	N. Y.	Penna.	Totals
Total acreage worked		58,410	54,379	5,037	53,623	25,354	62,597	73,648	22,416	365,4[illegible]
Acreage pine protected		26,040	35,200	1,985	18,115	11,339	12,619	32,597	5,362	145,257
Ribes pulled	Wild	832,166	671,408	106,173	345,346	18,079	556,000	610,007	259,486	3,401,665
	Cult	556	613	157	466	30	798	558	101	3,281
Total man days		14,045	8,560	1,413	7,206	4,640	8,302	12,763	12,298	69,247
Cost	Individuals	-	-	-	3.60	-	-	57.50	-	61.10
	Towns	4,723.34	8,026.81	341.92	725.64	-	1,582.06	-	-	15,399.77
	Counties	-	-	-	-	-	-	1,607.65	-	1,607.65
	State	1,043.56	2,106.75	-	1,246.82	21.82	-	6,880.96	3,138.97	14,438.88
	C.C.C.	10,465.26	-	191.01	629.89	3,959.18	13,879.97	15,218.67	25,468.49	69,812.47
	Federal W.P.A.	25,767.94	20,266.68	4,309.09	22,265.27	4,027.41	-	14,607.44	365.81	91,609.64
	State W.P.A.	-	-	-	-	-	6,842.24	-	-	6,842.24
	S.C.S.	-	-	-	-	3,850.41	-	-	-	3,850.41
	Total	42,000.10	30,400.24	4,842.02	24,871.22	11,858.82	22,304.27	38,372.22	28,973.27	203,652.16
Per Acre	Cost	.614	.559	.961	.464	.469	.356	.521	1.29	.557
	Ribes	12.2	12.3	21.1	6.5	0.7	8.9	8.3	11.6	9.3
	Man Days	.21	.16	.28	.13	.18	.13	.17	.55	.19

Table 80 - Summary of Initial and Re-Eradication Work Performed Under All Programs in Northeastern States During 1940

(By States)

State		Maine	N. H.	Vt.	Mass.	R. I.	Conn.	N. Y.	Penna.	Totals
No. Towns		57	55	15	27	7	34	149	110	454
Total acreage worked		106,886	73,550	28,942	83,442	28,864	78,179	227,978	73,997	701,838
Acreage pine protected		38,363	47,325	6,103	25,574	11,451	13,879	96,596	13,789	253,082
Ribes pulled	Wild	1,729,774	1,466,106	847,572	491,449	18,856	677,976	3,662,215	2,077,323	10,971,271
	Cult.	1,220	1,248	477	777	30	922	3,015	4,659	12,348
Total man days		23,980	13,815	8,671	10,499	5,160	9,155	35,235	32,724	139,239
Cost	Individuals	-	-	-	2069.37	-	-	451.40	-	2,520.77
	Towns	6,091.44	9,819.91	1618.00	1017.84	-	1826.17	-	-	20,373.36
	Counties	-	-	-	-	-	-	8,110.80	-	8,110.80
	State	1,417.80	2,574.71	-	1584.45	25.00	-	21,381.28	3,138.97	30,122.21
	C.C.C.	21,104.04	1,483.92	4,969.92	3330.70	3,959.18	13,879.97	23,267.86	55,263.39	127,258.98
	Federal W.P.A.	41,873.80	33,572.89	20,582.21	27,543.48	4,027.41	-	66,909.43	22,567.00	217,076.22
	State W.P.A.	-	-	-	-	-	10,504.86	-	-	10,504.86
	S.C.S.	-	-	-	-	5,008.55	-	-	-	5,008.55
	Total	70,487.08	47,451.43	27,170.13	35,545.84	13,020.14	26,211.00	120,120.77	80,969.36	420,976.75
Per Acre	Cost	.659	.645	.939	.426	.451	.335	.527	1.09	.600
	Ribes	16.2	19.9	29.3	5.9	0.7	8.7	16.1	28.1	15.6
	Man Days	.22	.19	.30	.13	.18	.12	.15	.44	.20

PERCENTAGE OF TOTAL EXPENDITURES IN THE VARIOUS NORTHEASTERN STATES FOR RIBES ERADICATION WORK DURING 1940



Note: Includes regular Ribes eradication, special black currant elimination, and nursery sanitation.

Table 81 - Summary of Nursery Sanitation Work Conducted Under All Programs in Northeastern States During 1940

State	Type of Erad.	No. Nurseries Worked	Acreage Worked	Ribes Pulled		Total Man Days	Cost						Per Acre		
				Wild	Cult.		Town	State	C.C.C.	W.P.A. (F.A.)	W.P.A. (State)	Total	Cost	Ribes	Man Days
Maine	Re-Erad.	1	203	187	0	19	-	-	-	$70.16	-	$70.16	.346	0.9	0.9
N. H.	Re-Erad.	2	540	19	0	11	-	14.50	-	34.20	-	48.70	.090	0.04	.02
Conn.	Re-Erad.	2	1525	454	0	37	25.15	-	$45.00	-	$60.98	134.13	.088	0.3	.02
N. Y.	Re-Erad.	2	2755	742	0	128	-	33.80	-	442.19	-	475.99	.173	0.3	.05
Penna.	Re-Erad.	9	4106	766	0	284	-	349.83	390.84	20.98	-	761.65	.185	0.2	.07
Totals	All Re-Erad.	16	9129	2168	0	479	25.15	398.13	438.84	567.53	60.98	1490.63	.163	0.2	.05
Percentage of Total Cost by Cooperating Agencies							1.7	26.7	29.4	38.1	4.1	100.0	-	-	-

TABLE 82 - Special Ribes Nigrum Elimination Work Conducted Under All Programs in Northeastern States During 1940

State		Mass.	N. Y.	Totals
No. Towns Worked		12	2	14
No. Towns Completed		12	0	12
No. Men Employed		4	4	8
No. Properties Inspected		25,548	76	25,624
No. Patches Located		21	1	22
No. Bushes Located	Nigrum	119	6	125
	Others	19	0	19
No. Bushes Pulled	Nigrum	371*	6	377
	Others	19	0	19
Total Man Days		138	5	143
Cost	Individuals	$68.80	0	$68.80
	State	95.88	$24.85	123.73
	W.P.A.	373.19	0	373.19
	Total	540.87	24.85	565.72

*Includes some bushes which were previously located.

Table 83 - Pine and Control Area Mapping Conducted Under All Programs in Northeastern States During 1940

State	No. Towns	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Total Man Days	Cost				
						Towns	State	C.C.C.	W.P.A.	Total
Maine	20	113,731	69,162	68½	2,001	-	-	-	$9,687.99	$9,687.99
N. H.	48	129,498	18,749	-	3,202	-	-	-	15,150.90	15,150.90
Vt.	51	143,559	641,304	32	2,824	530.52	-	-	10,161.20	10,691.72
Mass.	15	57,853	58,680	87	1,789	-	403.76	-	6,711.73	7,115.49
Conn.	29	80,782	-	1,309	5,020	3,020.17	-	-	17,935.46*	20,955.63
N. Y.	60	365,161	257,241	-	5,422	-	5668.56	-	18,176.10	23,844.66
Penna.	130	71,886	-	995	2,961	-	-	2,715.93	6,385.59	9,101.52
Totals	353	962,470	1,045,136	2,514½	23,219	3,550.69	6072.32	2,715.93	84,208.97	96,547.91
Percentage of total cost by cooperating agencies						3.7	6.3	2.8	87.2	100.0

*W.P.A. funds expended on special state project.

Several hundred thousand acres were also examined but not mapped in Pennsylvania, but no definite record was kept of the acreage eliminated in that state.

Table 84 - Blister Rust Canker Elimination Work Under All Programs in Northeastern States During 1940

State		Maine	Vt.	Penna.	Totals
Estimated No. Pines Examined		651	2,153	55,858	58,662
No. Fatally Infected Pines Cut Down		57	13	33	103
No. Pines From Which Cankers Removed		158	92	8,258	8,508
No. Cankers Removed	Branch	406	37	11,699	12,142
	Stem	26	65	200	291
Total Man Days		33	16	302	351
Cost	Individuals	$128.20	-	-	$128.20
	Towns	-	$50.00	-	50.00
	State	-	12.00	-	12.00
	W.P.A.(F.A.)	-	-	$975.85	975.85
	Total	$128.20	$62.00	$975.85	$1166.05

State Compensation Paid For Cultivated Ribes Destroyed Under All Programs in Northeastern States During 1940

The states paid no compensation for the 12,744 cultivated Ribes which were destroyed in connection with control activities in this Region during 1940. This establishes a record, as it was the first year since the blister rust control program was inaugurated in 1918 that no compensation payments were made. This is a real accomplishment and demonstrates excellent public cooperation in the control program.

Table 85 - Total State Expenditures, By Cooperating Agencies, For Blister Rust Control Work in Northeastern States During Calendar Year 1940

State	State Funds	Town Funds	Individual Funds or Labor	County Funds	Total
Maine	6,540.16	6,091.44	128.20	-	12,759.80
N. H.	3,904.98	9,819.91	-	-	13,724.89
Vt.	1,353.32	2,198.52	-	-	3,551.84
Mass.	3,061.80	1,017.84	2,138.17	-	6,217.81
R. I.	2,824.76	-	-	-	2,824.76
Conn.	4,056.36	5,029.41	-	-	9,085.77
N. Y.	40,232.03	-	451.40	8110.80	48,794.23
Penna.	4,308.03	-	-	-	4,308.03
Totals	66,281.44	24,157.12	2,717.77	8110.80	101,267.13
% Total	65.5	23.8	2.7	8.0	100.0

Table 86 - Total State Expenditures During The Calendar Year 1940 For The Various Blister Rust Control Projects in The Respective Northeastern States.

State	Supervision and B R C. Agent Activities	Ribes Eradication	Erad. Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Blister Rust Canker Elimination	Field Data		Total
							Mapping	General	
Maine	2,222.89	7,509.24	2,899.47	-	-	128.20	-	-	12,759.80
N. H.	1,264.11	12,394.62	-	-	14.50	-	-	51.66	13,724.89
Vt.	1,341.32	1,618.00	-	-	-	62.00	530.52	-	3,551.84
Mass.	233.97	4,671.66	740.74	167.68	-	-	403.76	-	6,217.81
R. I.	2,799.76	25.00	-	-	-	-	-	-	2,824.76
Conn.	3,187.64	1,525.17	868.72	-	25.15	-	3,020.17	157.92	9,085.77
N. Y.	-	29,943.43	8,072.48	24.85	33.80	-	5,668.56	5,051.06	48,794.23
Penna.	655.60	3,138.97	163.63	-	349.83	-	-	-	4,308.03
Totals	11,705.29	61,127.14	12,745.04	192.53	423.28	190.20	9,623.01	5,260.64	101,267.13
% Total	11.5	60.4	12.6	0.2	0.4	0.2	9.5	5.2	100.0

Table 87 - Total Federal Expenditures During The Calendar Year 1940 For The Various Blister Rust Control Projects in The Respective Northeastern States

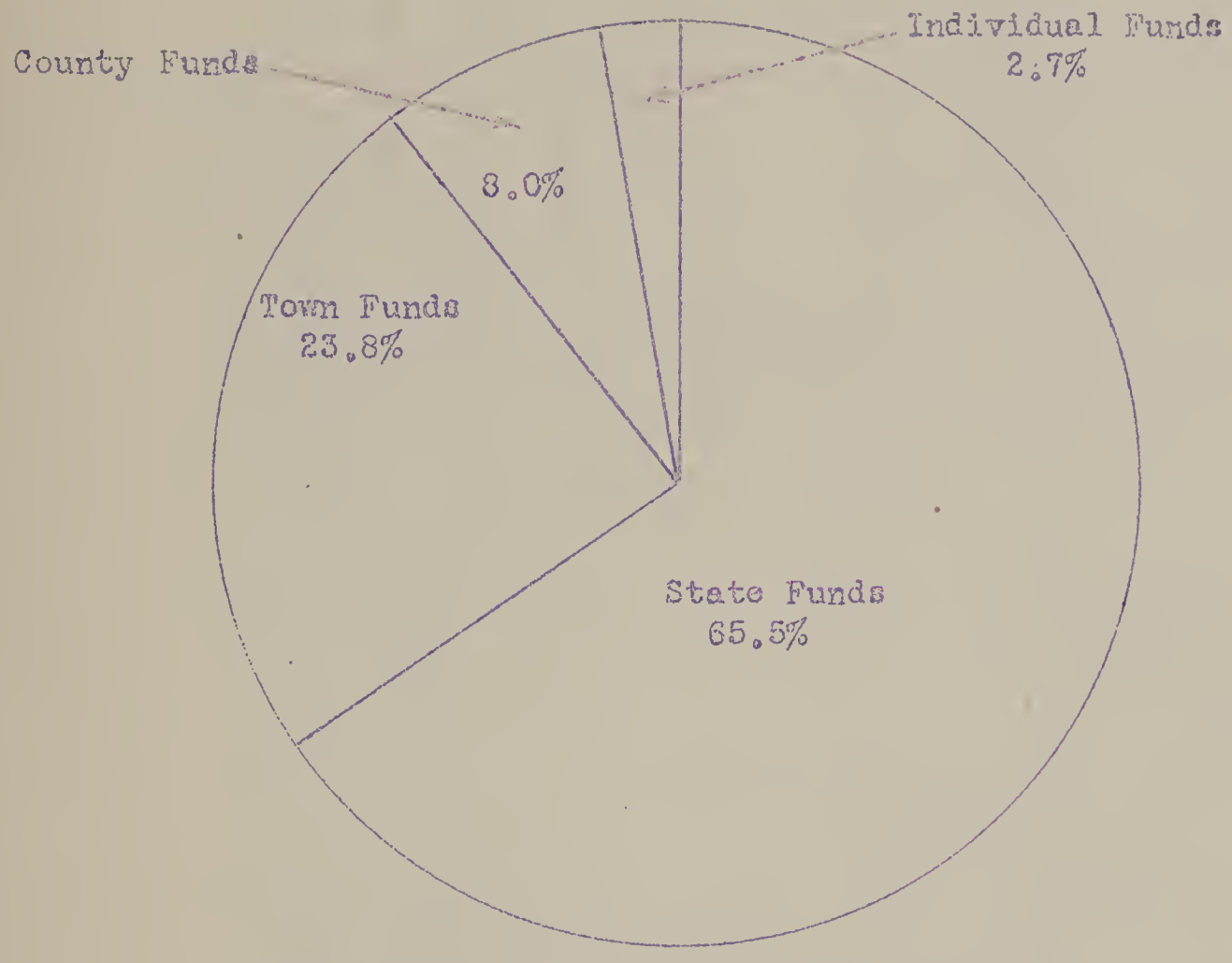
State	Supervision and B.R.C. Agent Activities	Ribes Eradication	Erad. Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Blister Rust Canker Elimination	Field Data		Total
							Mapping	General	
Maine	17,305.53	62,977.84	3,970.00	-	70.16	-	9,687.99	152.80	94,164.32
N. H.	17,421.36	35,056.81	1,169.69	-	34.20	-	15,150.90	1,423.16	70,276.14
Vt.	14,148.47	25,552.13	881.29	-	-	-	10,161.20	-	50,743.09
Mass.	15,491.44	30,874.18	468.87	373.19	-	-	6,711.73	-	53,919.41
R. I.	1,318.74	12,995.14	1,529.52	-	-	-	-	5.25	15,848.65
Conn.	4,000.10	24,384.83	3,839.99	-	108.98	-	17,935.46	11,690.60	61,959.96
N. Y.	25,938.18	90,177.29	6,932.20	-	442.19	-	18,176.10	3,158.07	144,824.03
Penna.	13,206.68	77,830.39	11,807.10	-	411.82	975.85	9,101.52	5,255.44	118,588.60
Totals	108,830.50	359,848.61	30,618.66	373.19	1,067.35	975.85	86,924.90	21,685.34	610,324.40
% Total	17.8	59.0	5.0	0.1	0.2	0.2	14.2	3.5	100.0

Table 88 - Total State and Federal Expenditures For Blister Rust Control in Northeastern States During Calendar Year 1940

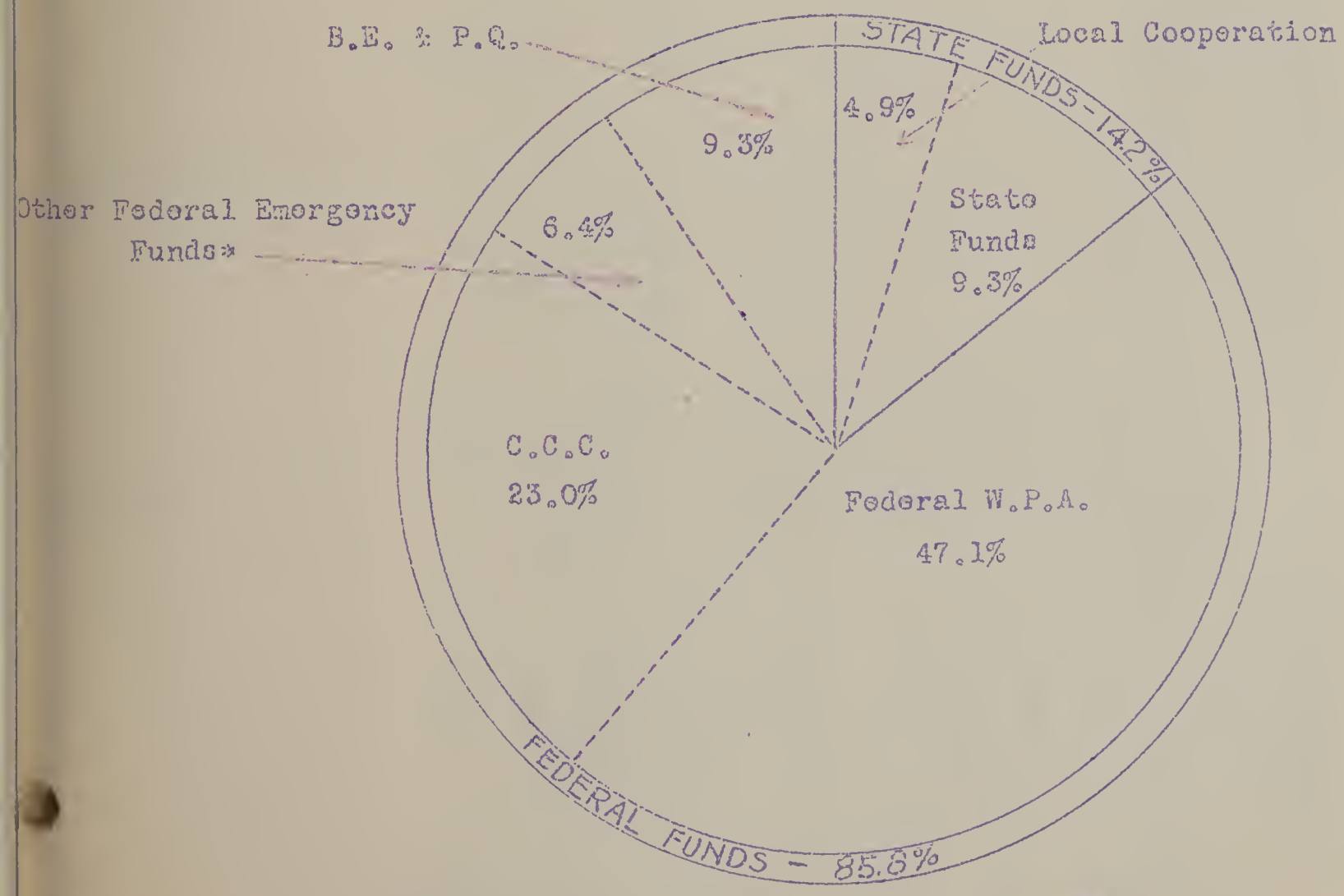
State	Total State Expenditures	Federal Expenditures						Total State and Federal Expenditures
		B.M. & P.Q.	C.C.C.	Federal W.P.A.	State W.P.A.	S.C.S.	Total	
Maine	12,759.80	12,041.27	25,074.04	57,049.01 (1)	-	-	94,164.32	106,924.12
N. H.	13,724.89	10,888.76	1,988.77	57,398.61	-	-	70,276.14	84,001.03
Vt.	3,551.84	7,804.46	5,851.21	37,087.42 (2)	-	-	50,743.09	54,294.93
Mass.	6,217.81	11,300.43	3,799.57	38,819.41 (3)	-	-	53,919.41	60,137.22
R.I.	2,824.76	1,299.96	4,705.31	4,046.19	-	5,797.19	15,848.65	18,673.41
Conn.	9,085.77	4,000.10	17,767.96	-	40,191.90	-	61,959.96	71,045.73
N. Y.	48,794.23	11,042.49	28,659.85	105,121.69	-	-	144,824.03	193,618.26
Penna	4,308.03	7,678.81	75,432.70	35,477.29 (4)	-	-	118,588.80	122,896.83
Totals	101,267.13	66,056.28	163,279.41	334,999.62	40,191.90	5,797.19	610,324.40	711,591.53
% of Total	14.2	9.3	23.0	47.1	5.6	0.8	85.8	100.0

(1) Includes $693.32 spent for district leaders' salaries from Cambridge Office W.P.A. administrative allotment
(2) Includes $758.31 " " " " " " " " " " "
(3) Includes $1,733.28 " " " " " " " " " " "
(4) Includes $108.33 " " " " " " " " " " "

IN NORTHEASTERN STATES DURING CALENDAR YEAR 1940
PAID BY VARIOUS COOPERATING AGENCIES.



Total State Expenditures - $101,267.13



Total State and Federal Expenditures - $711,591.63

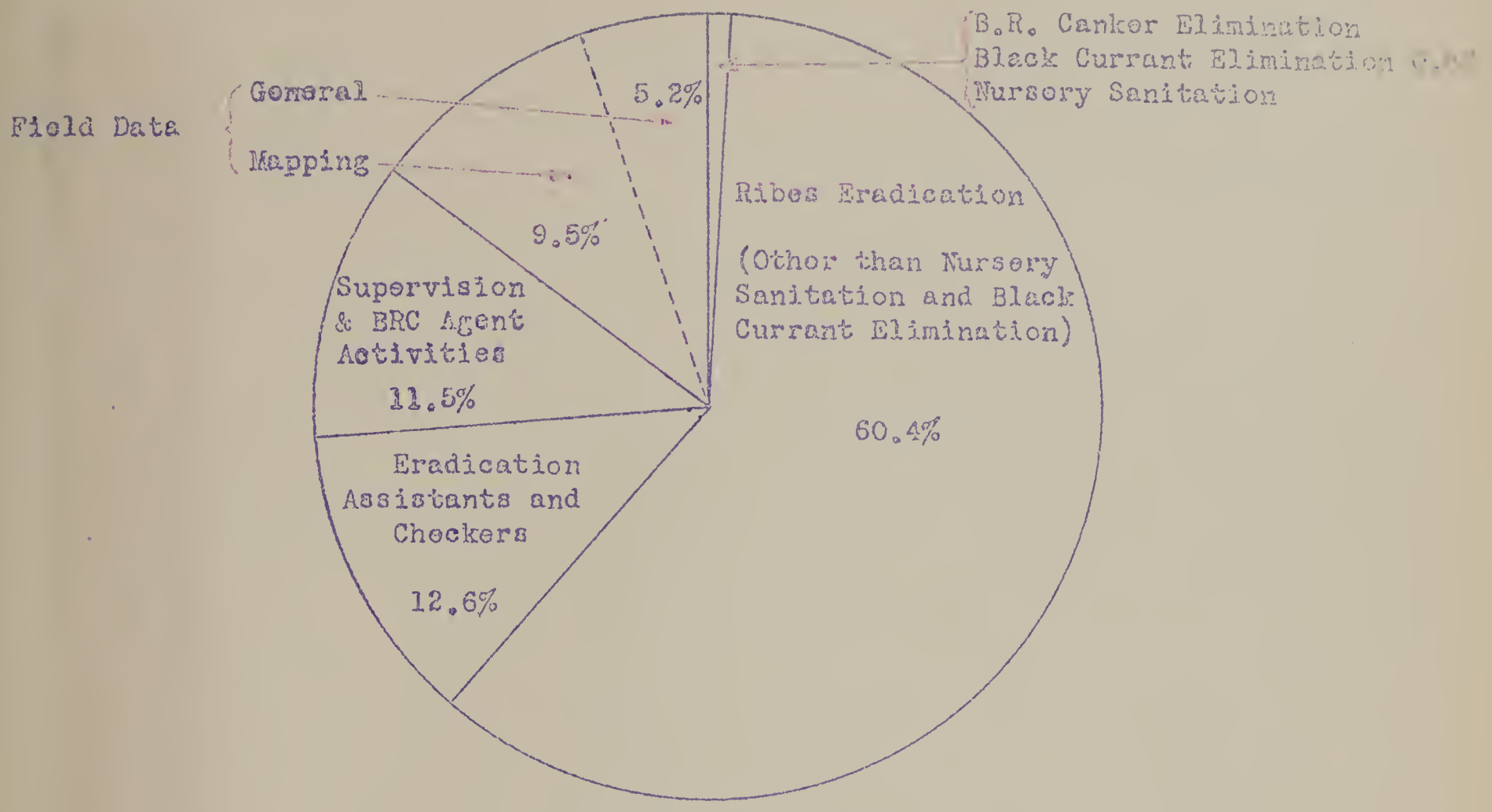
* Includes W.P.A. funds expended under State and Local W.P.A. Programs.

Table 89 - Total State and Federal Expenditures During Calendar Year 1940 for the Various Blister Rust Control Projects in the Northeastern States.

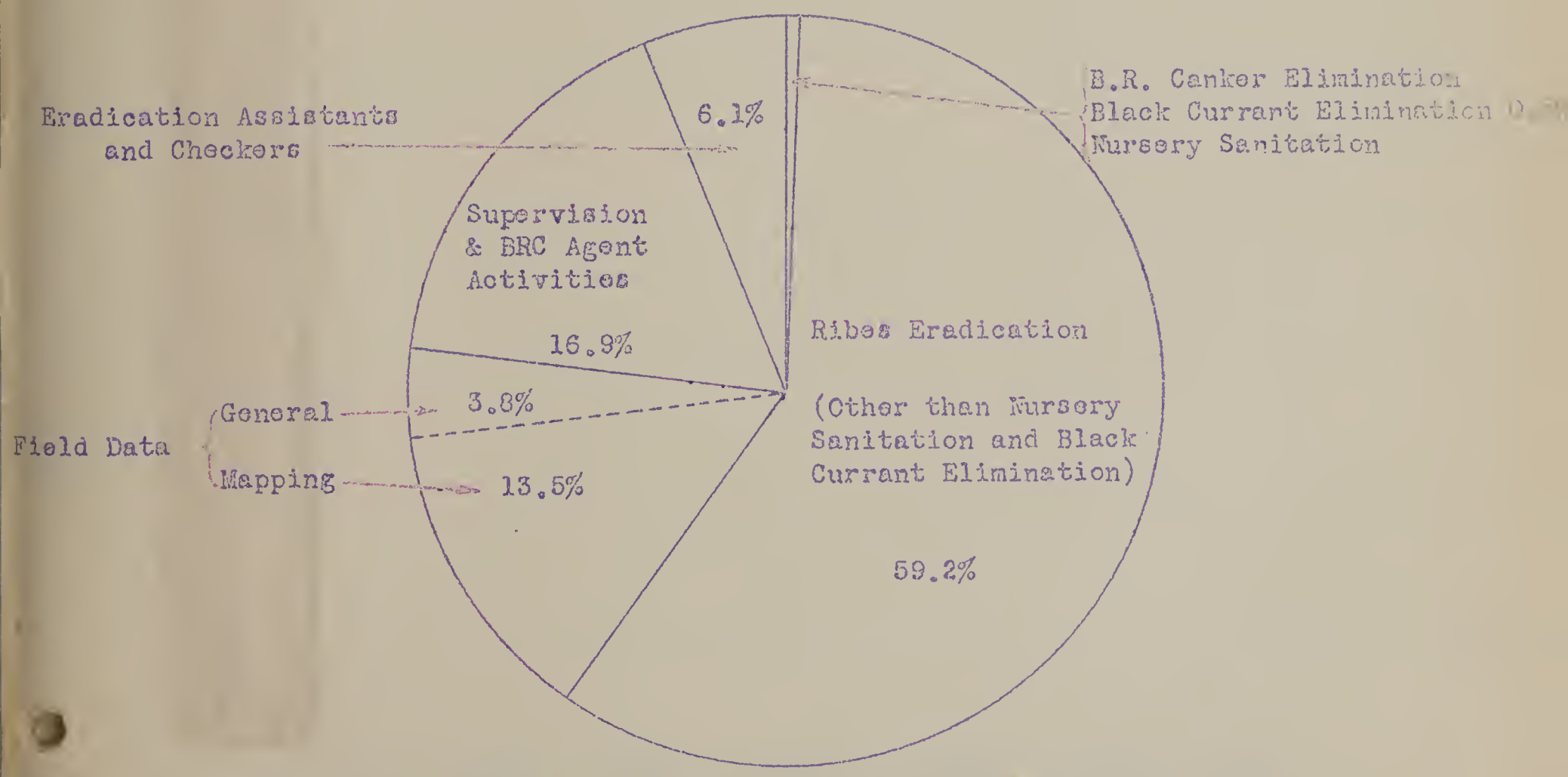
State	Supervision and B.R.C. Agent Activities	Ribes Eradication	Eradication Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Blister Rust Canker Elimination	Field Data		Total
							Mapping	General	
Maine	19,528.42	70,487.08	6,869.47	-	70.16	128.20	9,687.99	152.80	106,924.12
N. H.	18,685.47	47,451.43	1,189.69	-	48.70	-	15,150.90	1,474.84	84,001.03
Vt.	15,489.79	27,170.13	881.29	-	-	62.00	10,691.72	-	54,294.93
Mass.	15,725.41	35,545.84	1,209.61	540.87	-	-	7,115.49	-	60,137.22
R. I.	4,118.50	13,020.14	1,529.52	-	-	-	-	5.25	18,673.41
Conn.	7,187.74	26,211.00	4,708.71	-	134.13	-	20,955.63	11,848.52	71,045.73
N. Y.	25,935.18	120,120.77	15,004.68	24.85	475.99	-	23,844.66	8,209.13	193,618.26
Penna.	13,862.28	80,969.36	11,970.73	-	761.65	975.85	9,101.52	5,255.44	122,896.83
Totals	120,535.79	420,975.75	43,363.70	565.72	1,490.63	1,166.05	96,547.91	26,945.98	711,591.53
% Total	16.9	59.2	6.1	0.1	0.2	0.2	13.5	3.8	100.0

STATE AND FEDERAL EXPENDITURES IN NORTHEASTERN STATES DURING CALENDAR YEAR 1940

(Percentage of Total Spent on Each Project)



Total State Expenditures - $101,267.13



Total State and Federal Expenditures - $711,591.53

Table 90 Summary of All Ribes Eradication in Northeastern States
During Period 1918-1940 By Programs

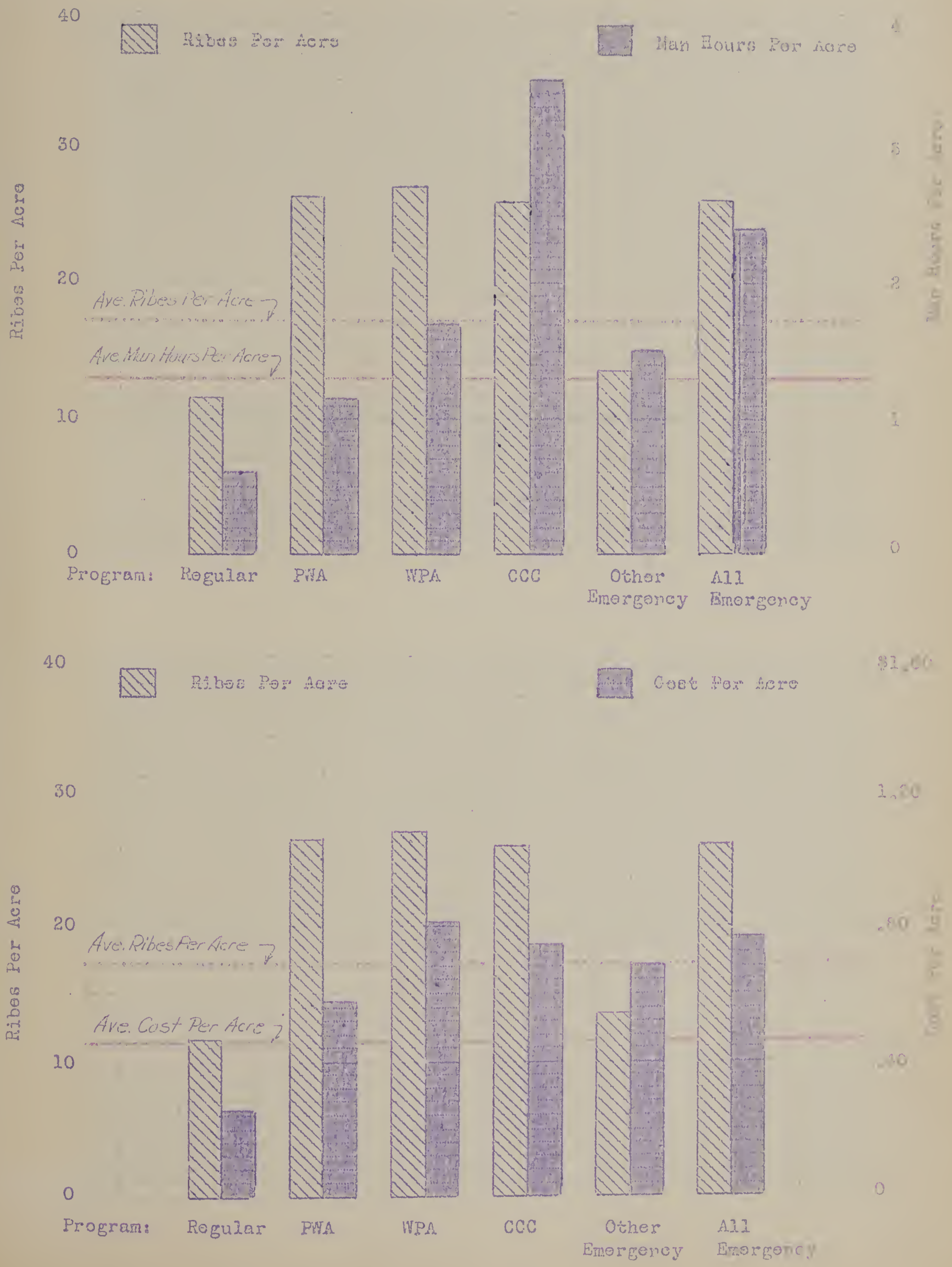
Program		Regular Cooperative	C.C.C.	P.W.A.	State and Local W.P.A.	C.W.A. and E.R.A.	A.R.A.	S.C.S.	N.Y.A.	Totals
Total Acreage Worked	Initial	8,139,928	1,361,874	1,306,285	48,210	20,547	10,639	20,451	348	11,588,322
	Re-Erad.	1,411,455	1,162,342	308,033	85,299	7,704	5,714	10,120	-	4,154,228
	Total	9,551,453	2,524,216	1,614,336	133,509	28,251	16,353	30,571	348	15,742,550
Number Wild Ribes Pulled	Initial	101,836,333	49,321,503	1,858,679	1,179,929	174,137	112,491	651,444	4,242	222,882,011
	Re-Erad.	8,614,636	16,307,337	1,705,242	504,186	158,586	13,779	18,830	-	49,290,995
	Total	110,450,969	65,628,840	3,563,921	1,684,115	332,723	126,270	670,274	4,242	272,173,006
Number Cult. Ribes Pulled	Initial	608,135	74,615	72,530	2,215	1,600	948	350	-	774,700
	Re-Erad.	23,864	17,959	30,034	1,301	306	110	-	-	78,933
	Total	631,999	92,574	102,564	3,516	1,906	1,058	360	-	853,653
Total Man Days	Initial	653,364	675,316	530,237	6,440	4,500	3,564	9,944	84	1,821,868
	Re-Erad.	90,973	439,291	68,196	8,588	3,270	772	2,485	-	799,731
	Total	744,337	1,114,607	598,433	15,028	7,770	4,336	12,429	84	2,621,599
Total Cost of All Ribes Erad. Work	Local Coop.	1,034,563.46	-	70,705.91	5,062.80	1,143.00	-	-	-	1,109,288.82
	State	1,056,036.17	28,767.42	56,718.61	56.40	2,791.98	305.80	1,857.90	100.00	1,239,075.23
	B.E.&P.Q.	63.05	-	203.33	-	-	-	-	-	266,286.41
	Park Service	8,345.53	-	-	-	-	-	-	-	71.58
	Forest Service	2,887.84	-	-	-	-	-	-	-	8,345.53
	C.C.C.	-	1,855,149.94	-	-	-	-	-	-	2,887.84
	P.W.A.	-	-	-	-	-	-	-	-	1,855,149.94
	W.P.A.	38.03	-	182,119.34	-	238.20	-	-	-	182,119.34
	C.W.A. & E.R.A.	-	-	2,446,685.56	67,129.67	-	-	245.76	-	2,446,685.56
	A.R.A.	-	-	27,902.90	-	27,902.90	-	-	-	27,902.90
	S.C.S.	-	-	15,057.94	-	-	15,057.94	-	-	15,057.94
	N.Y.A.	-	-	21,594.87	-	-	-	21,594.87	-	21,594.87
	Total	2,418,220.49	1,883,917.36	3,421,982.35	72,268.87	32,076.08	15,363.74	23,698.53	320.80	7,176,586.75
Per Acre Values for All Work	Cost	.253	.746	.213	.541	1.14	.940	.775	.922	.456
	Ribes	11.6	26.0	21.0	12.6	11.6	7.7	21.9	12.2	17.3
	Man Days	.08	.44	.18	.11	.28	.27	.41	.24	.17

Note: Acreage of initial Ribes eradication work under the Regular Cooperative Program adjusted by deducting 1,017,911 acres from total of yearly acreages reported since 1918. This represents the estimated area that was included in original acreage figures for Maine during period 1921-1930, inclusive, as explained [illegible]

In Table 90 which summarizes the eradication work by programs, it is not possible to adjust the re-eradication acreages as in Table 92 which lists the totals by states.

COMPARISON, BY PROGRAMS, OF PER ACRE VALUES FOR RIBES ERADICATION WORK

NORTHEASTERN STATES - 1935 to 1940, INCLUSIVE.



BLISTER RUST CONTROL ACTIVITIES AND ACCOMPLISHMENTS

UNDER ALL PROGRAMS IN THE NORTHEASTERN STATES

DURING PERIOD 1918-1940, INCLUSIVE

Table 91 - SUMMARY OF INITIAL RIBES ERADICATION WORK IN NORTHEASTERN STATES ALL YEARS

INCLUDES ALL RIBES ERADICATION WORK PERFORMED UNDER ALL PROGRAMS. HOWEVER, ALL BLACK CURRANT ELIMINATION AND NURSERY SANITATION PROJECTS SINCE 1929 ARE EXCLUDED.

STATE	1918						1919						1920						1921					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes
MAINE	4,910	91,862	258	3,178.25	1.03	18.7	9218	533,775	-	6,136.10	.87	36.2	10,285	176,788	636	4,994.08	.49	17.2	184,221	56,804	708	3,596.76	.02	.4
N.H.	66,232	939,515	8,427	26,089.09	.39	14.5	163,415	1,689,936	21,171	35,871.86	.22	10.1	203,878	2,061,996	22,206	37,038.66	.18	10.1	137,827	1,654,443	9,715	28,640.95	.16	12.0
VT.	4,698	78,983	77	3,182.64	1.10	16.8	2,460	96,749	-	2,214.86	.90	39.5	4,501	56,294	74	5,591.60	.73	8.1	6,819	60,337	131	3,464.01	.58	9.6
MASS.	18,706	556,067	1,918	15,805.31	.84	19.0	10,849	801,882	2,574	8,156.18	.75	18.6	19,589	1,224,506	1,421	10,422.87	.54	63.1	32,933	652,618	4,831	10,290.84	.31	19.2
R. I.	12,715	13,927	492	3,527.97	.28	1.1	40,411	45,320	1,657	3,609.74	.14	1.1	23,164	3,975	1,890	3,796.92	.16	.3	26,971	16,022	332	3,826.92	.14	.6
CONN.	800	10,900	-	est. 400.00	.50	12.5	2,500	31,000	-	2,823.34	.95	12.4	2,170	41,798	2	1,974.70	.91	19.7	8,000	41,470	6	2,664.07	.33	5.2
N. Y.	29,337	904,185	11,000	43,679.16	1.48	30.8	25,194	2,181,286	2,678	19,683.08	2.43	94.0	7,438	753,790	47	33,043.94	4.31	101.5	14,185	1,278,709	21	46,600.73	3.29	89.9
ALL STATES	137,458	2,415,887	22,150	99,862.40	.73	17.6	252,043	4,849,946	27,877	159,500.56	.63	18.1	270,918	4,501,940	25,936	93,662.74	.33	19.9	382,454	3,737,103	15,762	92,883.96	.24	9.6

STATE	1922						1923					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult.		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	190,209	449,287	5,688	8,012.48	.04	2.5	384,452	1,208,996	12,098	19,327.36	.06	3.6
N.H.	178,489	1,816,829	9,061	28,706.84	.16	10.2	267,807	3,499,180	34,779	51,604.66	.19	13.0
VT.	15,812	201,906	812	6,150.24	.46	13.0	23,930	272,246	1,234	8,080.33	.34	11.4
MASS.	64,302	1,878,294	2,368	13,578.09	.21	24.8	184,988	1,760,698	14,867	28,802.35	.18	9.5
R. I.	11,800	11,764	132	1,840.00	.16	1.0	28,068	13,011	1,464	1,701.56	.06	0.5
CONN.	6,178	137,501	-	4,851.30	.78	22.2	14,082	268,338	248	6,863.14	.49	20.5
N. Y.	11,030	654,231	-	34,082.70	3.09	59.3	18,439	906,617	367	44,229.78	2.87	37.8
ALL STATES	477,517	4,849,812	18,061	96,816.63	.20	10.2	870,786	7,930,028	85,074	158,609.88	.18	10.2

STATE	1924						1925						1926						1927					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes
MAINE	392,987	1,829,549	11,599	22,734.51	.06	4.6	274,054	1,700,670	13,041	20,070.86	.07	6.2	303,709	3,052,380	17,852	20,915.42	.07	10.1	260,471	2,582,159	10,225	22,075.46	.09	9.9
N.H.	824,754	4,028,359	14,941	32,399.44	.16	12.4	257,702	3,180,730	5,996	42,406.99	.18	13.4	178,287	2,968,421	3,612	41,199.76	.25	16.6	151,985	2,176,006	2,169	31,282.55	.21	14.5
VT.	24,714	177,187	592	8,951.78	.36	7.2	23,226	310,717	640	8,587.67	.34	12.5	16,800	227,908	1,404	8,281.99	.49	15.6	17,090	262,360	314	7,392.22	.43	15.4
MASS.	158,468	2,023,070	38,777	34,648.45	.22	12.8	190,945	745,446	53,610	21,353.15	.11	3.9	185,085	1,078,821	25,596	28,697.59	.15	5.9	284,411	884,090	52,735	26,017.98	.09	3.0
R. I.	47,480	22,561	2,985	2,092.01	.04	0.5	23,640	4,996	1,928	1,519.04	.06	0.2	23,557	16,458	203	1,674.28	.07	0.6	9,783	22,273	821	1,700.86	.18	2.3
CONN.	17,213	289,034	2,447	8,981.78	.53	16.7	13,753	270,747	680	4,592.03	.33	19.7	21,687	175,157	318	4,775.59	.22	8.1	12,068	40,441	715	1,784.63	.15	3.4
N.Y.	25,190	1,081,368	2,501	40,907.02	1.62	42.1	33,611	993,443	1,185	33,525.38	1.08	29.6	36,994	1,073,841	2,087	37,082.10	1.00	29.1	61,676	1,593,905	2,207	44,809.76	.78	22.6
PENNA.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL STATES	997,793	9,425,726	73,810	167,914.72	.17	9.4	800,893	7,206,949	59,048	133,857.10	.17	9.0	766,099	8,594,966	80,772	140,596.70	.18	11.2	797,436	7,341,240	48,864	135,063.45	.17	9.2

STATE	1928						1929					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult.		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	202,859	1,577,254	8,778	22,417.60	.11	7.8	234,459	2,129,942	18,244	21,959.78	.09	9.1
N.H.	145,529	2,041,412	4,076	31,572.55	.22	14.0	135,719	1,866,554	6,178	30,961.36	.20	12.0
VT.	14,475	147,930	144	6,020.30	.42	10.2	10,295	87,888	597	5,243.87	.51	8.5
MASS.	227,058	497,965	34,146	28,819.48	.13	2.2	243,679	825,868	32,226	29,827.84	.12	3.4
R. I.	21,461	17,777	615	2,629.64	.12	0.8	-	-	-	-	-	-
CONN.	73,961	98,412	1,289	6,727.84	.09	1.3	28,594	127,124	9,471	7,128.74	.25	4.5
N.Y.	83,454	1,740,941	9,411	45,570.18	.53	21.0	118,468	1,904,238	6,077	58,928.51	.50	16.1
PENNA.	-	-	-	-	-	-	5,489	329,670	561	3,736.26	.69	60.4
ALL STATES	770,117	6,121,689	56,459	143,456.81	.19	7.9	796,670	7,270,978	73,154	157,803.18	.20	9.1

STATE	1930						1931						1932						1933					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes		Wild	Cult.		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	197,075	2,096,207	10,337	23,463.51	.12	10.6	114,344	1,286,822	4,846	18,429.69	.16	11.2	31,151	735,469	3,569	11,981.89	.23	14.4	78,135	1,888,886	4,919	57,137.52	.51	25.8
N.H.	218,137	2,807,150	3,192	47,766.94	.22	12.9	138,004	2,891,692	4,022	46,596.31	.30	18.3	79,924	866,328	1,066	14,704.96	.16	10.8	77,073	4,182,871	732	48,211.90	.65	53.5
VT.	7,243	74,039	53	4,243.45	.59	10.2	8,123	38,827	129	3,144.50	.39	4.8	7,476	34,525	4,060	2,361.18	.32	4.6	17,280	232,624	223	12,093.21	.70	13.5
MASS.	108,683	996,376	8,072	15,294.76	.14	9.2	29,815	128,179	4,270	6,491.93	.22	4.3	13,384	106,577	967	8,196.38	.24	7.8	14,005	223,388	46	5,543.18	.40	16.0
R. I.	-	-	-	-	-	-	-	-	-	-	-	-	497	203	214	246.78	.30	0.4	80	129	-	97.07	1.21	1.6
CONN.	27,233	33,330	3,140	3,013.79	.11	1.2	1,510	25,776	260	730.08	.48	17.1	-	-	-	-	-	-	-	-	-	-	-	-
N.Y.	89,894	1,306,498	4,302	47,116.14	.52	14.3	118,333	1,484,224	4,956	53,435.61	.47	12.5	148,075	1,223,388	6,198	49,370.12	.34	8.8	75,775	659,088	5,115	31,658.48	.42	8.7
N. J.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PENNA.	11,743	636,766	663	8,631.48	.74	55.9	24,016	826,958	703	9,979.18	.42	34.3	20,212	802,027	3,542	6,064.70	.30	39.7	19,799	1,704,794	212	22,568.01	1.15	86.1
ALL STATES	660,032	7,970,368	30,009	149,330.09	.25	12.1	454,367	6,683,978	19,186	140,805.07	.31	14.7	317,919	3,768,737	19,416	87,925.98	.28	11.9	277,145	8,828,780	9,269	137,088.58	.37	31.9

STATE	1934						1935					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult.		Cost	Ribes
MAINE	89,696	3,380,322	2,518	55,638.30	.62	43.2	134,917	4,965,441	2,944	103,269.51	.78	36.8
N.H.	75,478	3,500,560	8	47,364.33	.63	46.4	89,518	3,469,646	378	63,233.07	.71	38.8
VT.	19,483	463,240	20	14,511.69	.75	23.6	28,240	476,377	210	25,058.50	.82	16.9
MASS.	12,713	834,977	1,673	11,552.77	.89	65.7	45,417	755,166	14,382	28,499.50	.63	16.6
R. I.	-	-	-	-	-	-	26,237	15,551	820	7,154.27	.27	0.5
CONN.	38,050	77,987	1,202	9,520.12	.25	2.2	48,318	356,528	4,176	20,575.44	.45	7.4
N.Y.	182,589	3,687,497	8,113	111,684.67	.61	31.2	248,432	6,418,062	13,060	213,838.17	.87	26.1
N. J.	12,696	28,322	1,163	896.93	.07	1.8	1,482	18,663	351	2,096.33	1.41	12.6
PENNA.	2,237	15,551	820	7,154.27	.27	0.5	64,879	6,244,326	8,492	110,789.03	1.71	96.2
ALL STATES	477,517	4,849,812	18,061	96,816.63	.20	10.2	684,285	22,719,742	44,440	374,333.62	.84	33.2

STATE	1936						1937					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	153,642	9,199,532	4,162	123,088.23	.80	39.9	37,557	1,816,977	791	32,699.81	.87	48.4
N.H.	140,940	6,266,569	4,530	106,642.83	.76	44.5	33,295	1,595,676	1,209	26,253.70	.74	45.2
VT.	85,839	4,273,925	1,916	102,151.40	1.19	49.8	32,736	1,096,116	819	24,936.24	.76	33.5
MASS.	39,630	791,298	889	33,943.29	.60	13.3	14,840	160,614	159	5,544.10	.37	10.8
R. I.	4,199	4,087	443	2,933.48	.70	1.0	7,239	6,856	297	3,483.70	.48	0.9
CONN.	42,269	137,736	2,940	14,935.32	.35	3.3	5,144	11,743	515	2,269.63	.32	2.3
N.Y.	429,637	13,618,021	23,791	425,187.91	.99	31.7	178,205	3,556,617	4,762	159,289.72	.89	31.2
N. J.	2,565	6,793	199	2,291.07	.89	2.6	-	-	-	-	-	-
PENNA.	129,584	7,167,335	12,975	203,693.67	1.57	55.3	66,207	2,863,279	9,418	85,467.81	1.29	43.2
ALL STATES	1,048,303	41,465,138	31,863	1,016,849.20	.97	39.6	377,223	13,107,878	17,770	340,368.71	.90	34.7

SUB-TOTALS 1918-1937 INCLUSIVE						
Acres		No. Ribes		Total Cost	Per Acre	
As Reported	As Adjusted*	Wild	Cult.		Cost	Ribes
3,234,207	2,216,296	41,084,964	132,907	584,928.87	.26	18.8
3,098,128	3,088,128	58,419,625	147,908	832,412.87	.27	17.3
370,472	384,032	8,631,885	18,281	258,445.10	.68	22.5
1,917,698	1,917,698	15,773,392	255,288	363,846.62	.19	8.2
310,954	310,934	214,672	18,841	43,834.16	.14	0.7
361,328	393,328	2,195,132	27,208	101,133.16	.28	5.6
1,928,817	1,928,817	50,798,919	105,843	1,636,484.83	.85	26.4
16,742	16,742	47,780	1,713	9,284.33	.32	2.9
575,085	378,085	25,564,348	38,880	807,923.39	1.39	68.2
11,898,428	10,626,274	197,722,785	733,568	4,335,294.13	.41	18.6

STATE	1938						1939					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	28,142	1,443,244	1,748	30,337.85	1.08	51.5	37,006	1,617,030	1,772	30,014.49	.81	43.7
N.H.	31,588	1,007,898	289	21,497.08	.68	32.1	19,872	823,156	1,514	18,377.31	.93	41.3
VT.	28,473	674,842	1088	21,382.87	.76	23.7	22,113	1,057,273	308	21,399.13	.97	47.8
MASS.	38,467	371,238	1,269	12,412.33	.32	9.6	38,467	371,238	1,269	12,412.33	.32	9.6
R. I.	51,199	183,298	970	7,204.59	.23	3.9	4,311	11,294	348	4,581.74	.97	2.5
CONN.	6,872	24,162	-	3,433.48	.50	3.9	10,231	13,618	1,648	6,339.88	.62	1.3
N.Y.	135,448	3,136,394	4,640	127,287.62	.94	23.3	127,340	2,753,293	7,923	90,822.99	.71	21.6
N. J.	-	-	-	-	-	-	-	-	-	-	-	-
PENNA.	58,952	2,452,117	3,461	74,781.03	1.27	41.6	67,477	1,862,823	2,543	66,140.95	.98	27.6
ALL STATES	930,705	8,958,770	13,851	292,254.29	.88	27.1	340,736	8,633,850	13,817	233,398.02	.74	25.3

STATE	1940						GRAND TOTALS 1918-1940 INCL.					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	38,476	897,608	662	25,486.38	.74	23.3	2,319,920	45,012,906	137,089	673,749.25	.29	19.4
N. H	19,171	794,638	635	17,031.19	.89	41.5	3,155,559	36,047,372	149,741	889,538.32	.28	17.8
VT.	23,905	741,399	320	22,328.11	.93	31.0	458,523	11,125,471	15,004	324,555.31	.71	24.3
MASS.	29,819	143,103	311	10,674.62	.36	4.8	2,017,180	16,473,031	257,838	394,138.38	.20	8.2
R. I.	3,500	777	-	1,131.32	.32	0.2	325,837	250,905	13,689	32,800.70	.10	0.8
CONN.	15,582	121,976	124	3,906.73	.23	7.8	443,288	2,466,403	29,317	121,028.21	.27	5.6
N. Y.	154,330	3,052,208	2,457	81,748.33	.53	19.8	2,343,935	39,761,016	120,865	1,336,314.09	.83	25.5
N. J.	-	-	-	-	-	-	16,742	47,780	1,713	3,284.33	.32	2.9
PENNA.	51,581	1,817,837	4,559	31,996.09	1.01	35.2	553,095	31,697,127	45,444	700,841.46	1.27	57.3
ALL STATES	336,364	7,369,606	9,067	217,323.59	.65	22.5	11,634,079	222,882,011	774,700	3,098,270.03	.44	19.2

* ADJUSTMENTS MADE IN TOTAL ACREAGE FIGURES FOR PERIOD 1918—1937, INCLUSIVE:

MAINE— 1,017,911 ACRES DEDUCTED FROM TOTAL OF YEARLY ACREAGES REPORTED UP TO 1937, INCLUSIVE. THIS REDUCTION REPRESENTS ELIMINATED AREA THAT WAS INCLUDED IN ORIGINAL ACREAGE FIGURES FOR YEARS 1921—1930, INCLUSIVE, WHEN THE CONTROL WORK WAS PERFORMED ON THE OWNER-LABOR BASIS. THESE ELIMINATED AREAS DID NOT CONTAIN SUFFICIENT PINE TO JUSTIFY CONTROL WORK.

VERMONT— 13,560 ACRES ADDED TO TOTAL OF YEARLY ACREAGES REPORTED UP TO 1937, INCLUSIVE. THESE 13,560 ACRES WERE ERRONEOUSLY REPORTED AS REWORKED.

CONNECTICUT— 32,197 ACRES ADDED TO TOTAL OF YEARLY ACREAGES REPORTED UP TO 1937, INCLUSIVE. THESE 32,197 ACRES WERE ERRONEOUSLY REPORTED AS REWORKED.

Table 92 - SUMMARY OF RIBES RE-ERADICATION WORK IN NORTHEASTERN STATES - ALL YEARS

INCLUDES ALL RIBES ERADICATION WORK PERFORMED UNDER ALL PROGRAMS. HOWEVER, ALL BLACK CURRANT ELIMINATION AND NURSERY SANITATION PROJECTS SINCE 1929 ARE EXCLUDED

STATE	1923						1924						1925					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	20	284	-	5.80	.29	14.2	1,240	17,608	-	359.60	.29	14.2	644	9,145	-	186.76	.29	14.2
N. H.	430	6,603	-	46.82	.11	11.3	6,668	75,168	48	990.79	.15	11.3	24,008	113,221	406	2,516.61	.11	4.7
VT.	1,240	6,324	-	417.88	.34	5.1	974	4,967	-	328.24	.34	5.1	1,396	7,120	-	470.45	.34	5.1
MASS.	16,943	25,414	-	1,609.59	.10	1.5	1,311	1,966	-	124.55	.10	1.5	4,256	6,384	-	404.32	.10	1.5
R. I.	3,240	1,264	-	134.40	.06	0.4	5,000	2,350	-	210.00	.04	0.5	-	-	-	-	-	-
CONN.	-	-	-	-	-	-	-	-	-	-	-	-	2,371	2,050	4	903.27	.38	0.9
N. Y.	-	-	-	-	-	-	-	-	-	-	-	-	1,326	1,420	-	463.98	.35	1.1
ALL STATES	21,873	39,889	-	2,274.49	.10	1.8	15,193	102,059	48	2,013.18	.13	6.7	34,001	139,340	410	4,945.39	.15	4.1

STATE	1926						1927					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	728	54,199	10	364.59	.51	74.4	1,010	19,480	-	438.25	.43	19.3
N. H.	32,046	159,488	677	4,406.89	.14	5.0	74,034	496,160	341	9,850.29	.13	6.7
VT.	5,850	29,835	-	1,971.45	.34	5.1	2,315	18,421	-	841.73	.36	7.9
MASS.	6,145	9,218	-	583.78	.10	1.5	14,942	42,400	27	1,862.08	.13	2.8
R. I.	2,670	1,197	-	250.00	.09	0.5	-	-	-	-	-	-
CONN.	570	7,669	12	286.76	.50	13.4	8,836	112,384	493	6,848.57	.78	13.9
N. Y.	1,079	1,499	-	77.66	.07	1.4	1,279	16,741	-	714.18	.56	13.1
ALL STATES	49,088	263,105	699	7,941.13	.16	5.4	102,416	705,586	861	20,555.10	.20	6.9

STATE	1928						1929						1930					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	708	18,538	-	180.30	.26	26.2	232	34,771	-	234.60	1.01	149.9	810	27,570	216	578.95	.72	34.0
N. H.	83,201	261,126	1,144	9,272.61	11	3.1	96,425	236,445	466	9,648.02	.10	2.5	6,733	33,080	5	829.27	.12	4.9
VT.	2,292	11,410	52	866.07	.38	5.0	3,005	22,786	56	1,249.60	.42	7.6	5,877	20,572	25	1,660.26	.28	3.5
MASS.	15,875	25,437	7	1,249.81	.08	1.6	20,961	16,194	655	2,656.67	.13	0.8	28,108	27,995	83	2,825.55	.10	1.0
R. I.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CONN.	1,124	24,973	75	1,286.50	1.14	22.2	6,203	7,283	1,451	905.80	.15	1.2	2,342	10,829	455	1,227.67	.52	4.6
N. Y.	10,395	216,828	824	5,035.30	.48	20.9	9,291	78,433	668	6,543.17	.70	8.4	8,327	95,691	169	3,014.16	.36	11.5
PENNA.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL STATES	113,595	558,312	2,102	17,890.59	.16	4.9	136,117	395,912	3,296	21,239.86	.16	2.9	32,197	215,737	953	10,135.86	.19	4.1

STATE	1931						1932					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	2,165	70,096	134	1,395.09	.64	32.4	30,436	287,497	1,157	7,285.10	.24	9.4
N. H.	21,357	130,583	200	3,649.78	.17	6.1	17,308	208,690	79	2,942.97	.17	12.1
VT.	3,535	10,287	3	980.77	.28	2.9	4,373	24,251	697	1,414.36	.32	5.5
MASS.	85,714	136,036	2,388	6,624.90	.08	1.6	148,022	227,776	2,104	13,441.03	.09	1.3
R. I.	-	-	-	-	-	-	5,973	5,595	75	1,418.31	.24	0.9
CONN.	4,540	85,051	-	4,005.85	.88	18.7	7,337	134,456	1,216	4,592.40	.63	18.3
N. Y.	5,205	18,706	67	1,331.05	.26	3.6	10,822	72,265	340	4,116.81	.38	6.7
PENNA.	1,408	39,384	-	1,047.33	.74	28.0	2,428	57,059	7	1,846.45	.76	23.5
ALL STATES	123,924	490,143	2,792	19,034.77	.15	4.0	226,701	1,017,589	5,675	37,057.43	.16	4.5

STATE	1933						1934						1935					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	23,047	365,439	68	6,900.38	.30	15.9	28,823	290,762	28	7,711.38	.27	10.1	64,166	1,063,168	446	37,661.57	.59	16.6
N. H.	21,453	571,195	5	8,232.92	.38	26.6	10,967	388,588	-	4,815.13	.44	35.4	57,413	1,438,645	149	37,897.88	.66	25.1
VT.	9,939	90,521	3	7,197.26	.72	9.1	12,690	258,508	-	10,762.31	.85	20.4	22,633	254,089	110	16,700.46	.74	11.2
MASS.	83,104	330,385	2821	14,218.90	.17	4.0	110,419	256,113	1,499	14,413.42	.13	2.3	66,914	627,044	2,739	43,140.86	.65	9.4
R. I.	5,233	3,459	86	4,433.53	.85	0.7	41,726	74,730	532	13,297.35	.32	1.8	72,260	93,682	3,147	28,834.74	.40	1.3
CONN.	42,513	300,299	109	16,628.59	.39	7.1	36,537	782,593	74	24,768.31	.68	21.4	56,233	781,670	2,606	36,659.22	.65	13.9
N. Y.	65,550	1,268,914	283	41,450.32	.63	19.4	81,868	619,259	4,726	37,950.22	.46	7.6	79,504	1,147,014	790	43,818.94	.55	14.4
N. J.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PENNA.	24,871	991,852	51	29,477.37	1.19	39.9	28,155	1,029,235	62	42,690.37	1.52	36.6	21,790	703,755	1,185	33,262.88	1.53	32.3
ALL STATES	275,710	3,922,064	3,426	128,539.27	.47	14.2	351,185	3,699,788	6,921	156,408.49	.45	10.5	440,913	6,103,067	11,172	277,976.55	.63	13.9

STATE	1936						1937					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	203,794	4,377,479	9,059	110,753.86	.54	21.5	74,842	1,434,301	584	36,841.37	.49	19.2
N. H.	166,947	3,797,938	1,195	99,733.46	.60	22.9	66,838	936,627	223	33,167.35	.50	14.0
VT.	27,315	720,273	469	27,455.54	1.01	26.4	15,938	191,604	139	10,548.11	.66	12.0
MASS.	42,145	695,894	932	24,036.67	.57	16.5	42,145	695,894	932	24,036.67	.57	16.5
R. I.	68,175	1,112,632	3029	60,448.00	.89	16.3	30,510	46,255	214	11,189.72	.37	1.5
CONN.	92,243	85,172	4321	30,979.23	.34	0.9	52,715	200,952	619	20,653.85	.39	3.8
N. Y.	36,705	519,811	854	31,388.66	.86	14.2	32,742	585,023	270	25,072.11	.77	17.3
N. J.	115,220	2,328,262	2446	97,461.89	.85	20.2	1,417	16,956	15	1,631.36	1.15	12.0
PENNA.	-	-	-	-	-	-	22,352	207,760	360	25,929.38	1.16	9.3
ALL STATES	736,073	14,203,609	22,061	502,493.28	.68	19.3	339,499	4,295,372	3,356	189,071.92	.56	12.7

STATE	SUB-TOTALS 1923-1937 INCLUSIVE						1938						1939					
	Acres Re-examined As Reported	Acres Re-examined As Adjusted*	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	432,665	432,665	8,070,337	11,702	210,897.60	.49	18.7	87,836	1,319,791	1,270	49,846.28	.57	15.0	52,031	946,758	659	31,972.85	.61	18.2
N. H.	684,828	684,828	8,853,557	4,938	228,000.79	.33	12.9	49,806	754,073	272	26,826.34	.54	15.1	54,847	937,496	111	30,716.30	.56	17.1
VT.	119,372	105,812	1,670,968	1,554	82,864.49	.78	15.8	20,248	454,891	315	16,185.61	.80	22.3	9,337	387,155	138	8,337.72	.89	41.5
MASS.	713,034	713,034	3,540,888	16,284	187,644.13	.26	5.0	86,575	741,397	3,101	43,847.11	.51	8.6	70,750	717,798	1,393	35,414.20	.50	10.1
R. I.	258,857	258,857	313,704	8,375	90,807.28	.35	1.2	11,346	19,304	1,374	5,301.69	.47	1.7	658	1,012	32	597.48	.91	1.5
CONN.	258,026	225,829	2,910,020	7,568	150,155.45	.66	13.2	56,486	644,796	1,163	38,587.02	.68	11.4	34,567	452,522	321	17,981.01	.52	13.1
N. Y.	422,608	422,608	6,430,055	10,583	267,049.79	.63	15.2	77,305	612,218	668	37,766.99	.49	7.9	104,517	1,011,307	707	67,620.21	.65	9.7
N. J.	1,417	1,417	16,956	15	1,631.36	1.15	12.0	-	-	-	-	-	-	-	-	-	-	-	-
PENNA.	127,678	127,678	4,291,087	2,353	178,526.42	1.40	33.6	21,262	297,540	67	28,383.41	1.34	14.0	32,698	433,700	309	37,803.04	1.16	13.3
ALL STATES	3,018,485	2,972,728	36,157,572	63,772	1,397,577.31	.47	12.2	410,864	4,844,010	8,230	246,744.45	.61	11.8	359,405	4,887,748	3,670	230,442.81	.64	13.6

STATE	1940					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	68,410	832,166	558	42,000.10	.61	12.2
N. H.	54,379	671,408	613	30,400.24	.56	12.3
VT.	5,037	106,173	157	4,842.02	.96	21.1
MASS.	53,623	348,346	466	24,871.22	.46	6.5
R. I.	25,364	18,079	30	11,888.82	.47	0.7
CONN.	62,597	556,000	798	22,304.27	.36	8.9
N. Y.	73,648	610,007	558	38,372.22	.52	8.4
N. J.	-	-	-	-	-	-
PENNA.	22,416	259,486	101	28,973.27	1.29	11.6
ALL STATES	365,474	3,401,665	3,281	203,652.16	.56	9.3

STATE	GRAND TOTALS 1923-1940 INCL.					
	Acres Re-examined	No. Ribes Wild	No. Ribes Cult	Total Cost	Per Acre Cost	Per Acre Ribes
MAINE	640,342	11,169,052	14,189	334,716.83	.52	17.4
N. H.	843,860	11,216,534	5,934	315,943.67	.37	13.3
VT.	140,434	2,619,187	2,164	112,229.84	.80	18.6
MASS.	923,382	5,348,429	21,244	291,776.66	.32	5.8
R. I.	296,225	352,035	9,811	108,595.27	.37	1.2
CONN.	379,479	4,623,338	10,250	229,027.75	.60	12.2
N. Y.	636,078	8,663,587	12,516	410,809.21	.61	12.8
N. J.	1,417	16,956	15	1,631.36	1.15	12.0
PENNA.	284,054	5,281,813	2,830	273,686.14	1.34	25.9
ALL STATES	4,108,471	43,290,995	78,953	2,078,416.73	.51	12.0

* ADJUSTMENTS MADE IN TOTAL ACREAGE FIGURES FOR PERIOD 1918-1937, INCLUSIVE:
VERMONT - 13,560 ACRES DEDUCTED FROM TOTAL OF YEARLY ACREAGES REPORTED UP TO 1937, INCLUSIVE. THESE 13,560 ACRES WERE ERRONEOUSLY REPORTED AS REWORKED.
CONNECTICUT - 32,197 ACRES DEDUCTED FROM TOTAL OF YEARLY ACREAGES REPORTED UP TO 1937, INCLUSIVE. THESE 32,197 ACRES WERE ERRONEOUSLY REPORTED AS REWORKED

Table 93 - SUMMARY OF RIBES ERADICATION WORK IN NORTHEASTERN STATES - ALL YEARS

INITIAL AND RE-ERADICATION WORK

(INCLUDES ALL RIBES ERADICATION WORK PERFORMED UNDER ALL PROGRAMS. HOWEVER, ALL BLACK CURRANT ELIMINATION AND NURSERY SANITATION PROJECTS SINCE 1929 ARE EXCLUDED)

STATE	1918						1919						1920					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult.		Cost	Ribes		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	4,910	71,862	235	5,179.23	1.05	18.7	9,216	333,775	-	6,136.10	.67	36.2	10283	176,788	636	4,994.05	49	17.2
N. H.	66,292	759,315	8,427	26,089.09	.39	14.5	163,413	1,659,936	21,171	35,371.86	.22	10.2	203,373	2,061,996	22,206	37,038.66	.18	10.1
VT.	4,698	78,563	77	5,182.64	1.10	16.8	2,460	96,749	-	2,214.26	.90	39.3	4,501	36,294	74	3,391.60	75	8.1
MASS.	18,706	356,067	1,919	15,805.31	.84	19.0	10,849	201,882	2,374	8,156.18	.75	18.6	19,389	1,224,306	1,421	10,422.87	.54	63.1
R. I.	12,715	13,927	492	3,527.97	.28	1.1	40,411	45,320	1,657	5,609.74	.14	1.1	23,164	5,973	1,550	3,796.92	.16	.3
CONN.	800	10,000	-	Est. 400.00	.50	12.5	2,500	31,000	-	2,323.34	.93	12.4	2,170	42,793	2	1,974.70	91	19.7
N. Y.	29,337	904,153	11,000	4,367.16	.148	30.8	23,194	2,181,286	2,675	7,689.08	3.43	94.0	7,438	753,790	47	32,043.94	4.31	101.3
ALL STATES	137,458	2,413,887	22,150	99,863.40	.73	17.6	252,043	4,549,948	27,877	139,500.56	.55	18.1	270,318	4,301,940	25,936	93,662.74	.35	15.9

STATE	1921						1922						1923					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	156,221	56,304	708	3,398.76	.02	.4	190,209	449,287	3,688	8,012.48	.04	2.3	336,452	1,209,282	12,093	19,333.16	.06	3.6
N. H.	137,827	1,654,443	9,713	22,640.93	.16	12.0	178,489	1,816,829	9,061	28,706.64	.16	10.2	268,237	3,496,733	24,779	51,651.48	.19	13.3
VT.	6,319	60,337	131	3,464.01	.55	9.6	13,512	201,906	812	6,150.24	.46	15.0	25,190	278,370	1,234	8,498.43	.34	11.0
MASS.	32,933	632,618	4,631	10,290.54	.31	19.2	64,302	1,378,294	2,368	13,375.09	.21	24.5	201,931	1,776,107	14,887	28,411.92	.14	7.8
R. I.	26,971	16,022	552	3,826.92	.14	.6	11,300	11,764	132	1,840.00	.16	1.0	31,308	14,275	1,464	1,895.96	.06	0.5
CONN.	8,000	41,470	6	2,664.07	.33	5.2	6,175	137,301	-	4,651.50	.75	22.2	14,062	288,333	248	6,863.14	.49	20.5
N. Y.	14,183	1,275,709	21	46,600.73	3.29	89.9	11,030	654,231	-	34,082.70	3.09	59.3	15,459	906,617	367	44,229.78	2.87	57.3
ALL STATES	382,454	3,737,103	15,762	92,885.96	.24	9.8	475,217	4,849,812	16,061	96,818.65	.20	10.2	892,639	7,969,917	35,074	160,883.87	.18	8.9

STATE	1924						1925						1926					
	Acres	No Ribes		Total Cost	Per Acre		Acres	No Ribes		Total Cost	Per Acre		Acres	No Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	401,227	1,846,957	11,599	23,093.91	.06	4.6	274,678	1,710,015	15,041	20,237.62	.07	6.2	304,437	3,106,579	17,562	21,280.01	.07	10.2
N. H.	331,402	4,098,527	14,989	53,590.23	.16	12.4	261,710	3,293,951	6,402	44,925.60	.17	12.6	210,333	3,127,909	4,289	45,606.67	.22	14.9
VT.	25,688	182,154	592	9,280.02	.36	7.1	26,622	317,837	640	9,058.12	.34	11.9	22,650	237,743	1,404	10,253.44	.45	11.4
MASS.	159,776	2,025,036	38,777	34,772.98	.22	12.6	195,201	751,830	33,610	21,759.45	.11	3.8	189,230	1,088,039	25,596	27,281.37	.14	5.7
R. I.	52,480	24,711	2,953	2,302.01	.04	.5	25,640	4,994	1,928	1,519.04	.06	0.2	28,207	17,635	203	1,924.23	.07	0.6
CONN.	17,215	289,034	2,447	5,981.73	.35	16.7	16,106	272,797	684	5,495.30	.34	16.9	22,257	182,826	330	5,062.35	.23	8.2
N. Y.	25,198	1,061,368	2,501	40,907.02	1.62	42.1	34,937	994,865	1,153	35,787.36	1.02	28.4	38,073	1,077,340	2,087	37,129.76	.98	28.3
PENNA.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALL STATES	1,012,986	9,527,787	73,858	169,927.90	.17	9.4	834,894	7,346,289	39,458	138,802.49	.17	8.8	815,187	8,858,071	51,471	148,537.83	.18	10.9

STATE	1927						1928						1929					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	261,481	2,601,639	10,225	22,513.71	.09	9.9	203,067	1,595,792	8,778	22,597.90	.11	7.9	234,691	2,164,713	18,244	22,194.38	.10	9.2
N. H.	226,019	2,672,166	2,510	41,072.84	.18	11.8	228,530	2,302,538	5,220	40,844.96	.18	10.1	252,144	2,102,999	6,644	40,609.40	.16	8.3
VT.	19,405	280,781	314	8,233.95	.42	14.4	16,767	159,340	196	6,886.37	.41	9.5	13,300	110,671	453	6,495.47	.49	8.3
MASS.	299,353	906,490	32,760	27,940.03	.09	3.1	242,933	523,400	34,153	29,769.26	.12	2.2	264,840	841,759	32,881	32,486.51	.12	3.2
R. I.	9,735	22,279	521	1,700.86	.18	2.3	21,461	17,777	613	2,629.64	.12	0.8	-	-	-	-	-	-
CONN.	20,904	152,825	1,208	8,633.20	.41	7.3	75,105	123,385	1,364	8,013.84	.11	1.6	34,597	134,407	10,922	8,034.54	.23	3.9
N. Y.	62,955	1,410,646	2,207	45,523.96	.72	22.4	95,849	1,957,769	10,235	50,605.43	.53	20.4	127,756	1,982,671	6,745	65,466.48	.51	15.5
PENNA.	-	-	-	-	-	-	-	-	-	-	-	-	5,459	329,670	561	3,756.26	.69	60.4
ALL STATES	899,852	8,046,826	49,745	155,618.35	.17	8.9	883,712	6,680,001	60,561	161,347.40	.18	7.6	932,787	7,666,890	76,450	179,043.04	.19	8.2

STATE	1930						1931						1932					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	197,885	2,123,777	10,573	24,042.46	.12	10.7	116,709	1,356,418	4,980	19,824.78	.17	11.6	81,587	1,022,986	4,726	19,266.99	.24	12.3
N. H.	224,870	2,840,230	3,197	48,596.21	.22	12.6	179,361	3,022,275	4,222	50,246.09	.28	16.9	97,232	1,073,218	1,145	17,647.93	.18	11.1
VT.	13,122	94,611	108	5,903.71	.45	7.2	11,660	49,114	132	4,125.07	.35	4.2	11,849	58,776	4,157	3,775.54	.32	5.0
MASS.	136,791	1,024,371	8,155	18,120.33	.13	7.3	115,529	264,215	6,658	13,116.83	.11	2.3	161,606	334,353	3,071	16,637.41	.10	2.1
R. I.	-	-	-	-	-	-	-	-	-	-	-	-	6,472	5,798	289	1,665.06	.26	0.9
CONN.	29,595	44,159	3,595	4,241.46	.14	1.5	6,050	110,827	260	4,735.90	.78	18.3	7,337	134,456	1,216	4,592.40	.63	18.3
N. Y.	98,221	1,402,189	4,471	50,130.30	.51	14.3	123,558	1,502,930	5,023	56,764.66	.46	12.2	155,897	1,295,653	6,538	53,486.93	.34	8.3
N. J.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PENNA.	11,745	656,768	863	8,631.48	.74	55.9	25,424	868,342	703	11,026.51	.43	34.2	22,640	859,086	3,349	7,911.15	.35	37.9
ALL STATES	712,229	8,186,105	30,962	159,665.95	.22	11.5	578,291	7,174,121	21,978	159,839.84	.28	12.4	544,620	4,786,326	25,091	124,983.41	.23	8.8

STATE	1933						1934						1935					
	Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes
MAINE	96,182	2,251,325	4,987	44,037.90	.46	23.4	118,719	4,171,084	2,546	63,349.88	.53	35.1	199,083	6,028,609	3,390	142,930.88	.72	30.3
N. H.	98,528	4,694,066	757	56,444.82	.57	47.6	86,445	3,888,948	8	52,379.66	.61	45.0	146,731	4,908,291	524	101,132.95	.69	33.5
VT.	27,219	323,145	228	19,292.47	.71	11.9	32,173	721,748	20	25,274.00	.79	22.4	50,881	732,466	320	39,758.96	.78	14.4
MASS.	97,107	553,773	2,869	19,764.06	.20	5.7	123,132	1,091,090	3,172	25,766.19	.21	8.9	112,331	1,382,212	17,261	71,640.36	.64	12.3
R. I.	5,313	3,388	86	4,530.60	.85	0.7	41,726	14,730	532	13,297.33	.32	1.8	98,517	107,213	3,467	35,989.01	.37	1.1
CONN.	42,513	300,299	109	16,628.59	.39	7.1	72,587	860,580	1,276	34,088.43	.47	11.9	104,548	1,138,198	6,782	57,232.66	.55	10.9
N. Y.	141,323	1,928,002	3,396	73,083.80	.52	13.6	264,257	6,306,756	12,841	149,634.89	.57	23.9	324,956	7,565,076	13,850	257,677.11	.79	23.3
N. J.	-	-	-	-	-	-	12,695	22,322	1,163	89,693	.07	1.8	1,482	18,663	351	2,096.33	1.41	12.6
PENNA.	44,670	2,696,646	263	31,845.38	1.16	60.4	61,339	3,996,426	2,386	99,861.62	1.63	97.8	86,669	6,948,081	9,667	144,051.91	1.66	80.2
ALL STATES	552,855	12,750,844	12,695	285,627.62	.52	23.1	813,073	23,133,684	23,944	464,548.95	.57	28.5	1,125,198	28,828,809	35,612	852,330.17	.76	25.6

STATE	1936						1937						SUB-TOTALS 1918-1937 INCLUSIVE							
	Acres	No Ribes		Total Cost	Per Acre		Acres	No Ribes		Total Cost	Per Acre		Acres		No Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost	Ribes	As Reported	As Adjusted*	Wild	Cult		Cost	Ribes
MAINE	357,436	13,576,831	13,221	233,842.09	.65	38.0	112,399	3,251,278	1,375	69,341.18	.62	28.9	3,666,872	2,648,961	49,125,301	144,609	795,827.47	.30	18.5
N. H.	306,887	10,064,507	5,745	206,376.29	.67	32.8	102,133	2,532,303	1,432	59,421.05	.58	24.8	3,769,956	3,769,956	62,273,180	152,441	1,060,413.36	.28	16.5
VT.	113,154	4,994,198	2,385	129,586.94	1.15	44.1	48,674	1,287,720	958	35,484.33	.73	26.5	489,844	489,844	10,322,923	14,833	342,309.59	.70	21.1
MASS.	127,805	1,903,930	3,918	96,391.29	.75	14.9	56,985	856,508	1,091	29,582.77	.52	15.0	2,630,729	2,630,729	19,316,280	271,572	551,490.15	.21	7.3
R. I.	96,442	89,259	4,764	33,912.71	.35	0.9	32,749	53,111	511	14,673.42	.39	1.4	569,811	569,811	528,376	21,716	134,641.44	.24	0.9
CONN.	78,974	657,567	3,794	46,323.98	.59	8.3	57,859	212,695	934	23,347.48	.40	3.7	619,354	619,354	3,165,152	35,177	251,288.61	.41	8.3
N. Y.	544,857	15,946,283	26,237	522,649.80	.96	29.3	210,947	6,121,640	5,032	184,361.83	.87	29.0	2,349,425	2,349,423	57,228,974	116,426	1,903,534.72	.81	24.4
N. J.	2,565	6,795	199	2,291.07	.89	2.6	1,417	16,956	13	1,631.36	1.15	12.0	18,159	18,159	64,736	1,728	6,915.69	.38	3.6
PENNA.	156,258	8,429,377	13,663	247,968.31	1.59	53.9	88,559	3,071,039	9,778	111,397.19	1.26	34.7	502,763	502,763	29,855,435	41,233	686,443.81	1.37	59.4
ALL STATES	1,784,378	55,668,747	73,926	1,519,342.48	.85	31.2	716,722	17,403,250	21,126	529,440.63	.74	24.3	14,616,913	13,599,002	233,880,357	799,737	5,732,871.44	.42	17.2

STATE	1938						1939					
	Acres	No Ribes		Total Cost	Per Acre		Acres	No. Ribes		Total Cost	Per Acre	
		Wild	Cult		Cost	Ribes		Wild	Cult.		Cost	Ribes
MAINE	115,978	2,763,033	3,018	80,184.17	.69	23.8	89,037	2,563,848	2,431	61,987.34	.70	28.8
N. H.	81,194	1,761,968	561	48,323.39	.60	21.7	74,719	1,762,652	1,425	49,293.81	.66	23.6
VT.	48,721	1,129,733	1,410	37,568.38	.77	23.2	31,450	1,444,430	446	29,736.85	.95	45.9
MASS.	117,774	924,695	4,071	51,051.70	.43	7.9	109,217	1,089,036	2,662	47,826.75	.44	10.0
R. I.	18,218	43,466	1,374	8,755.17	.48	2.4	3,169	12,306	380	4,979.22	.96	2.4
CONN.	44,926.67	658,414	2,811	44,926.67	.67	9.9	58,517	588,199	657	27,629.68	.47	10.1
N. Y.	212,753	3,768,812	5,308	165,024.62	.78	17.7	231,857	3,764,602	8,632	158,443.19	.68	16.2
N. J.	-	-	-	-	-	-	-	-	-	-	-	-
PENNA.	80,214	2,749,657	3,528	103,164.44	1.29	34.3	100,175	2,296,523	2,854	103,943.99	1.04	22.9
ALL STATES	741,569	13,799,780	22,081	538,998.74	.73	18.6	700,141	13,521,598	19,487	483,840.83	.69	19.3

STATE	1940						GRAND TOTALS 1918 - 1940 INCL.				
	Acres	No Ribes		Total Cost	Per Acre		Acres	No Ribes		Total Cost	Per Acre
		Wild	Cult		Cost	Ribes		Wild	Cult		Cost Ribes
MAINE	106,886	1,729,774	1,220	70,487.08	.66	16.2	2,360,862	56,181,958	151,278	1,008,486.06	.34 19.0
N. H.	73,550	1,466,106	1,248	47,451.43	.65	19.9	3,333,413	67,263,906	155,675	1,205,481.99	.30 16.8
VT.	28,942	847,572	477	27,170.13	.94	29.3	538,957	13,744,658	17,168	436,785.15	.73 22.9
MASS.	83,442	491,449	777	35,545.84	.43	5.9	2,941,162	21,821,460	279,082	685,913.04	.23 7.4
R. I.	29,864	18,856	30	13,020.14	.45	0.7	622,062	603,004	23,500	161,395.57	.26 1.0
CONN.	78,179	677,976	922	26,211.00	.34	8.7	822,767	7,083,741	39,567	350,055.96	.43 8.6
N. Y.	227,978	3,662,215	3,019	120,120.77	.53	16.1	3,022,013	68,424,603	133,381	2,347,123.30	.78 22.6
N. J.	-	-	-	-	-	-	18,159	64,736	1,728	6,915.69	.38 3.6
PENNA.	13,397	2,077,323	4,659	80,963.36	1.65	28.1	737,149	36,978,940	52,214	974,527.60	1.29 48.8
ALL STATES	701,838	10,971,271	12,348	420,975.73	.60	15.6	15,142,550	272,173,006	853,653	7,176,686.76	.46 17.3

* ADJUSTMENTS MADE IN TOTAL ACREAGE FIGURES FOR PERIOD 1918-1937, INCLUSIVE.

MAINE - 1,017,911 ACRES DEDUCTED FROM TOTAL OF YEARLY ACREAGES REPORTED UP TO 1937 INCLUSIVE. THIS REDUCTION REPRESENTS ELIMINATED AREA THAT WAS INCLUDED IN ORIGINAL ACREAGE FIGURES FOR YEARS 1921-1930, INCLUSIVE, WHEN THE CONTROL WORK WAS PERFORMED ON THE OWNER-LABOR AND SCOUTING BASIS. THESE ELIMINATED AREA DID NOT CONTAIN SUFFICIENT PINE TO JUSTIFY CONTROL WORK.

Table 94 - Ribes Eradication Work Performed on Federal Lands in Northeastern States During Period 1924-1940, Inclusive (Regular and C.C.C. Programs).

Project	Type of Erad.	Total Acreage Worked	Ribes Pulled		Total Man Days	Cost						Per Acre		
			Wild	Cult		C.C.C.	B.P.I.	Forest Service	Park Service	State	Total	Cost	Ribes	Man Days
Acadia National Park, Me.	Initial	20,668	893,137	293	11,218	13,468.20	3145.83	-	8345.53	-	24,959.56	1.21	43.2	.54
	Re-Erad.	9,407	35,191	-	3,562	5,988.71	-	-	-	-	5,988.71	.637	3.7	.38
	Total	30,075	928,328	293	14,780	19,456.91	3145.83	-	8345.53	-	30,948.27	1.03	30.9	.49
White Mt. National Forest, Me.	Initial	-	-	-	-	-	-	-	-	-	-	-	-	
	Re-Erad.	85	3,754	-	47	-	-	141.25	-	-	141.25	1.66	44.2	.55
	Total	85	3,754	-	47	-	-	141.25	-	-	141.25	1.66	44.2	.55
White Mt. National Forest, N.H.	Initial	8,729	816,274	85	2,879	3,423.74	75.63	1471.62	-	224.11	5,195.10	.595	93.5	.33
	Re-Erad.	8,893	320,324	-	1,869	2,811.47	-	495.20	-	133.50	3,440.17	.387	36.0	.21
	Total	17,622	1,136,598	85	4,748	6,235.21	75.63	1966.82	-	357.61	8,635.27	.490	64.5	.27
Sub-Totals White Mt. National Forest	Initial	8,729	816,274	85	2,879	3,423.74	75.63	1471.62	-	224.11	5,195.10	.595	93.5	.33
	Re-Erad.	8,978	324,078	-	1,916	2,811.47	-	636.45	-	133.50	3,581.42	.399	36.1	.21
	Total	17,707	1,140,352	85	4,795	6,235.21	75.63	2108.07	-	357.61	8,776.52	.496	64.4	.27
Allegheny National Forest, Pa.	Initial	4,158	759,375	30	2,239	3,166.92	136.56	507.71	-	-	3,811.19	.917	182.5	.54
	Re-Erad.	1,152	61,061	-	541	646.41	71.29	272.06	-	-	989.76	.859	53.0	.47
	Total	5,310	820,436	30	2,780	3,813.33	207.85	779.77	-	-	4,800.95	.904	154.5	.52
Totals	Initial	33,555	2,468,786	408	16,336	20,058.86	5358.02	1979.33	8345.53	224.11	36,965.85	1.01	73.6	.49
	Re-Erad.	19,537	420,330	-	6,019	9,446.59	71.29	908.51	-	133.50	10,559.89	.540	21.5	.31
	Total	53,092	2,889,116	408	22,355	29,505.45	3429.31	2887.84	8345.53	357.61	44,525.74	.839	54.4	.42

Page 95 | Summary of Forest Destruction work Under all programs in Northeastern States During period 1936-1940, Inclusive.

By States

State	Type of Erad	Acreage Examined	Ribes Pulled: Wild	Ribes Pulled: Cult	Total Man Days	Local Coop.	State	B.E.&P.C. and B.P.I.	P.W.A.	C.C.C.	W.P.A.	S.C.S.	Total	Per Acre: Cost	Per Acre: Ribes	Per Acre: Man Days
Maine	Initial	206	103,516	22	163	324.45	198.20	-	-	-	-	-	522.65	2.54	502.5	.79
	Re-Erad	1,529	10,819	-	300	156.18	184.60	-	461.25	129.82	70.16	-	1002.01	.655	7.1	.20
	Total	1,735	114,335	22	463	480.63	382.80	-	461.25	129.82	70.16	-	1524.66	.879	65.9	.27
N. H.	Initial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Re-Erad	2,762	7,824	1	283	172.28	337.21	-	-	-	458.96	-	968.45	.351	2.8	.10
	Total	2,762	7,824	1	283	172.28	337.21	-	-	-	458.96	-	968.45	.351	2.8	.10
Vt.	Initial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Re-Erad	2,230	4,839	75	409	-	957.91	-	-	108.00	218.27	-	1,284.18	.576	2.2	.18
	Total	2,230	4,839	75	409	-	957.91	-	-	108.00	218.27	-	1,284.18	.576	2.2	.18
Mass.	Initial	723	30,369	112	139	140.80	212.79	10.00	195.34	-	-	-	558.93	.773	42.0	.19
	Re-Erad	7,310	19,194	182	1114	89.20	3454.27	-	-	-	1495.75	-	5,039.22	.689	2.6	.15
	Total	8,033	49,563	294	1253	230.00	3667.06	10.00	195.34	-	1495.75	-	5,598.15	.697	6.2	.16
R. I.	Initial	1,780	160	565	167	-	343.56	162.87	-	-	46.50	-	552.93	.311	0.1	.09
	Re-Erad	15,993	4,784	184	263	-	755.62	-	150.00	151.13	318.42	-	1,375.17	.086	0.3	.02
	Total	17,773	4,944	749	430	-	1099.18	162.87	150.00	151.13	364.92	-	1,928.10	.108	0.3	.02
Conn.	Initial	7,157	5,839	152	278	204.32	352.69	139.92	120.00	65.28	-	-	882.21	.123	0.8	.04
	Re-Erad	52,953	11,153	888	2414	582.19	3711.64	610.87	677.80	1185.68	1416.77	-	8,184.95	.155	0.2	.04
	Total	60,110	16,992	1040	2692	786.51	4064.33	750.79	797.80	1250.96	1416.77	-	9,067.16	.151	0.3	.04
N. Y.	Initial	3,110	26,017	634	382	5.60	1219.95	-	-	-	-	-	1,225.55	.394	8.4	.12
	Re-Erad	92,236	130,570	1246	5753	246.57	14,526.07	-	2490.75	255.50	2457.71	80.55	20,057.15	.217	1.4	.06
	Total	95,346	156,587	1880	6135	252.17	15,746.02	-	2490.75	255.50	2457.71	80.55	21,282.70	.223	1.6	.06
N.J.	Initial	795	2,000	114	109	-	99.45	-	-	-	-	228.00	327.45	.412	2.5	.14
	Re-Erad	870	765	-	18	-	76.47 (3)	52.04	3.33	-	-	2.25	134.09	.154	0.9	.02
	Total	1,665	2,765	114	127	-	175.92	52.04	3.33	-	-	230.25	461.54	.277	1.7	.08
Penna	Initial	4414	38,460	494	343½	235.30	617.43	36.80	264.55	-	-	55.30	1209.38	.274	8.7	.08
	Re-Erad.	19,911	53,421	71	3,847½	344.65	3582.44	-	-	4074.67	857.27	-	8859.03	.445	2.7	.19
	Total	24,325	91,881	565	4,191	579.95	4199.87	36.80	264.55	4074.67	857.27	55.30	10,068.41	.414	3.8	.17
Totals	Initial	18,185	206,361	2093	1,581½	910.47	3,044.07	349.59	579.89	65.28	46.50	283.30	5,279.10	.290	11.3	.09
	Re-Erad	195,794	243,369	2647	14,401½	1591.07	27,586.23	662.91	3783.13	5904.80	7293.31	82.80	46,904.25	.240	1.2	.07
	Total	213,979	449,730	4740	15,983	2501.54	30,630.30	1012.50	4363.02	5970.08	7339.81	366.10	52,183.35	.244	2.1	.07
% of total cost by cooperating agencies						4.8	58.7	1.9	8.4	11.4	14.1	0.7	100.0	-	-	-

(1) Town funds - balance of expenditures under heading "Local Cooperation" all individual funds.

(2) Includes $1245.18 W.P.A. funds spent under State W.P.A. Program.

(3) Includes $29.54 B.E. & P.C. funds - balance of expenditures under this heading were from B.P.I. funds.

Table 96 - Summary of Nursery Sanitation Work Under All Programs in Northeastern States During Period 1930-1940, Inclusive
By Years

Year	Type of Erad.	Acreage Examined	Ribes Pulled		Total Man Days	Cost								Per Acre		
			Wild	Cult.		Local Coop.	State	BE & PQ and B.P.I.	P.W.A.	C.C.C.	W.P.A.	S.C.S.	Total	Cost	Ribes	Man Days
1930	Initial	4,973	110,704	182	447	528.77	905.19	-	-	-	-	-	1,433.96	.288	22.3	.09
	Re-Erad.	20,752	59,542	643	1490	568.89	4198.33	-	-	-	-	-	4,767.22	.230	2.9	.07
	Total	25,725	170,246	825	1937	1097.66	5103.52	-	-	-	-	-	6,201.18	.241	6.6	.08
1931	Initial	3,048	6,117	55	120	5.60	240.36	139.92	-	-	-	-	385.88	.127	2.0	.04
	Re-Erad.	26,776	26,126	1086	1671	117.69	4863.42	372.50	-	-	-	-	5,353.61	.200	1.0	.06
	Total	29,824	32,243	1141	1791	123.29	5103.78	512.42	-	-	-	-	5,739.49	.192	1.1	.06
1932	Initial	4,759	16,478	1222	565	50.65	1588.32	172.87	-	-	-	-	1,811.84	.381	3.5	.12
	Re-Erad.	12,903	12,543	60	1247	(1) 163.24	3826.15	5.33	-	-	-	-	3,996.72	.310	1.0	.10
	Total	17,662	29,021	1282	1812	213.89	5416.47	178.20	-	-	-	-	5,808.56	.329	1.6	.10
1933	Initial	1,574	21,642	32	130	59.40	196.95	36.80	264.55	-	-	-	557.70	.354	13.7	.08
	Re-Erad.	18,662	36,643	368	1713	(2) 331.95	4608.74	255.54	-	709.40	-	-	5,905.63	.316	2.0	.09
	Total	20,236	58,285	400	1843	391.35	4805.69	292.34	264.55	709.40	-	-	6,463.33	.319	2.9	.09
1934	Initial	2,293	48,247	144	162	217.55	7.00	-	315.34	65.28	-	-	605.17	.264	21.0	.07
	Re-Erad.	18,144	30,642	62	1904	-	2432.22	-	3066.50	796.84	-	-	6,295.56	.347	1.7	.10
	Total	20,437	78,889	206	2066	217.55	2439.22	-	3381.84	862.12	-	-	6,900.73	.338	3.9	.10
1935	Initial	148	1,608	320	27	46.90	-	-	-	-	-	-	46.90	.317	10.9	.18
	Re-Erad.	18,489	30,513	179	1269	34.75	1987.27	-	716.63	849.93	-	-	3,588.58	.194	1.7	.07
	Total	18,637	32,121	499	1296	81.65	1987.27	-	716.63	849.93	-	-	3,635.48	.195	1.7	.07
1936	Initial	195	1,538	65	102	-	77.25	-	-	-	-	228.00	305.25	1.57	7.9	.52
	Re-Erad.	13,604	13,288	155	1500	63.00	1802.06	-	-	595.92	2930.79	-	5,391.77	.396	1.0	.11
	Total	13,799	14,826	220	1602	63.00	1879.31	-	-	595.92	2930.79	228.00	5,697.02	.413	1.1	.12
1937	Initial	980	27	70	9½	1.60	-	-	-	-	46.50	-	48.10	.049	.03	.01
	Re-Erad.	17,809	12,045	70	1505½	230.90	1438.43	(3) 29.54	-	1174.51	2008.03	2.25	4,883.66	.274	0.7	.08
	Total	18,789	12,072	140	1515	232.50	1438.43	29.54	-	1174.51	2054.53	2.25	4,931.76	.262	0.6	.08
1938	Initial	215	-	3	19	-	29.00	-	-	-	-	55.30	84.30	.392	0	.09
	Re-Erad	21,755	10,091	12	1115	55.50	1309.13	-	-	954.70	893.60	48.15	3,261.08	.150	0.5	.05
	Total	21,970	10,091	15	1134	55.50	1338.13	-	-	954.70	893.60	103.45	3,345.38	.152	.45	.05
1939	All Re.	17,771	9,768	12	508	-	720.35	-	-	384.66	832.38	32.40	1,969.79	.111	0.5	.03
1940	All Re.	9,129	2,168	-	479	25.15	398.13	-	-	438.84	628.51	-	1,490.63	.163	0.2	.05
Total	Initial	18,185	206,361	2093	1581½	910.47	3044.07	349.59	579.89	65.28	46.50	283.30	5,279.10	.290	11.5	.09
	Re-Erad	195,794	243,369	2647	14401½	1591.07	27586.23	662.91	3783.13	5904.80	7293.31	82.80	46,904.25	.240	1.3	.07
	Total	213,979	449,730	4740	15,983	2501.54	30630.30	1012.50	4363.02	5970.08	7339.81	366.10	52,183.35	.244	2.1	.07
Per cent total cost by cooperating agencies						4.8	58.7	1.9	8.4	11.4	14.1	0.7	100.0			

(1) Includes $? ?8 town funds. (2) Includes $348.45 town funds. (3) B.E. and P.Q. funds.

Table 97 -Summary of Nursery Sanitation Work in Northeastern States During Period 1930-1940 Inclusive - By Programs

Program	Type of Erad.	Total Acreage Examined	Ribes Pulled		Total Man Days	Cost								Per Acre		
			Wild	Cult		Local Coop.	State	BE & PQ and BPI	P.W.A.	C.C.C.	W.P.A.	S.C.S.	Total	Cost	Ribes	Mis
Regular Coopera-tive	Initial	16,490	178,967	1930	1271½	879.72	2930.82	349.59	-	-	-	-	4160.13	.252	10.9	.0
	Re-Erad	128,415	171,530	2417	7477	1258.42	24189.13	633.37	-	-	-	-	26080.92	.203	1.3	.0
	Total	144,905	350,497	4347	8748½	2138.14	27119.95	982.96	-	-	-	-	30241.05	.209	2.4	.0
P.W.A.	Initial	415	25,597	3	147	30.75	7.00	-	579.89	-	-	-	617.64	1.49	61.7	.7
	Re-Erad	15,422	14,285	96	1356	-	1597.41	-	3783.13	-	-	-	5380.54	.349	0.9	.0
	Total	15,837	39,882	99	1503	30.75	1604.41	-	4363.02	-	-	-	5998.18	.379	2.5	.0
C.C.C.	Initial	280	232	47	33	-	-	-	-	65.28	-	-	65.28	.233	0.8	.1
	Re-Erad	11,222	45,294	14	3575	-	736.30	-	-	5904.80	-	-	6641.10	.592	4.0	.3
	Total	11,502	45,526	61	3608	-	736.30	-	-	5970.08	-	-	6706.38	.583	4.0	.3
Federal W.P.A.	Initial	590	27	45	9	-	-	-	-	-	46.50	-	46.50	.079	0.04	.0
	Re-Erad	26,380	11,395	119	1683	307.50	896.59	-	-	-	6048.13	-	7252.22	.275	0.4	.0
	Total	26,970	11,422	164	1692	307.50	896.59	-	-	-	6094.63	-	7298.72	.271	0.4	.0
State W.P.A.	Initial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Re-Erad	2,967	348	-	256	25.15	-	-	-	-	1245.18	-	1270.33	.428	0.1	.0
	Total	2,967	348	-	256	25.15	-	-	-	-	1245.18	-	1270.33	.428	0.1	.0
S.C.S.	Initial	410	1,538	68	121	-	106.25	-	-	-	-	283.30	389.55	.950	3.8	.3
	Re-Erad	11,388	517	1	54½	-	166.80	29.54*	-	-	-	82.80	279.14	.025	0.05	.0
	Total	11,798	2,055	69	175½	-	273.05	29.54	-	-	-	366.10	668.69	.057	0.2	.0
Totals	Initial	18,185	206,361	2093	1581½	910.47	3044.07	349.59	579.89	65.28	46.50	283.30	5279.10	.290	11.3	.9
	Re-Erad	195,794	243,369	2647	14401½	1591.07	27586.23	662.91	3783.13	5904.80	7293.31	82.80	46904.25	.240	1.2	.0
	Total	213,979	449,730	4740	15983	2501.54	30630.30	1012.50	4363.02	5970.08	7339.81	366.10	52183.35	.244	2.1	.0
% of total cost by cooperating agencies						4.8	58.7	1.9	8.4	11.4	14.1	0.7	100.0	-	-	

* B.E. and P.Q. funds.

Table 98 - Status of Nursery Sanitation Work in Northeastern States
December, 1940

State	Nurseries Where Protection Established and Being Maintained				Maximum Acreage of Control Areas	No. Nurseries Protected During 1940	No. White Pines Existing During 1940 in Nurseries Protected That Year
	Number						
	Federal	State	Private	Total			
Maine	-	1	1	2	409	1	91,500
N. H.	-	1	1	2	749	2	1,845,000
Vt.	-	1	-	1	700	-	-
Mass.	-	4	7	11	8,450	-	-
R. I.	-	-	5	5	2,453	-	-
Conn.	-	2	3	5	1,768	2	956,000
N. Y.	1	3	1	5	7,157	2	13,750,000
N. J.	-	1	-	1	600	-	-
Penna.	1	4	4	9	4,136	9	9,590,500
Totals	2	17	22	41	26,402	16	26,233,000

Thirty-seven other nurseries in the Northeastern States established zones, but abandoned them for various reasons.

List of Nurseries Maintaining Sanitation Zones
in Northeastern States

	Acreage of Sanitation Zone
Maine	
Western Maine Nursery - Fryeburg, Maine	247
State Nursery - Orono, Maine	162
	409
New Hampshire	
Keene Forestry Associates - Swanzey, N. H.	250
State Nursery - Boscawen, N. H.	499
	749
Vermont	
State Nursery - Essex Junction, Vt.	700
Massachusetts	
Massachusetts Dept. of Conservation Nursery - Amherst, Mass.	225
Massachusetts Dept. of Conservation Nursery - Bridgewater, Mass.	100
Massachusetts Dept. of Conservation Nursery - Clinton, Mass.	150
Massachusetts Dept. of Conservation Nursery - Erving, Mass.	50
Winchendon Forest Nursery - Winchendon, Mass.	240
Franklin Forestry Company - Shelburne Falls, Mass.	435
Kelsey Highlands Nursery - Boxford, Mass.	900
Little Tree Farms Nursery - Framingham, Mass.	725
Wyman Nursery - Framingham, Mass.	1,000
Littlefield-Wyman - No. Abington, Mass. & Bay State Nursery- Abington, Mass.	4,625
	8,450
Rhode Island	
Newport Nursery - Middleton, R. I.	628
Rhode Island Nursery - Middleton, R. I.	770
Greenwood Nursery - North Kingston, R. I.	385
Red Oaks Nursery - Scituate, R. I.	580
Greaton Nursery - Providence, R. I.	110
	2,473

List of Nurseries Maintaining Sanitation Zones in Northeastern States (Continued)

	Acreage of Sanitation Zone
Connecticut	
Northeastern Forestry Company, Cheshire, Conn.	537
A. N. Pierson Inc. - Cromwell, Conn.	395
Elfgren Nursery - East Killingly, Conn.	280
State Nursery - Barkhamstod, Conn.	356
State Nursery - Tolland, Conn.	200
	1,768
New York	
State Nursery - Saratoga, N. Y.	2,310
State Nursery - Lowville, N. Y.	1,237
State Nursery - Painted Post, N. Y.*	2,800
New York State College of Forestry Nursery - Syracuse, N.Y.	260
Jackson - Perkins Nursery - Newark, N. Y.	530
	7,137

* Leased by Soil Conservation Service

New Jersey	
State Nursery - Washington Crossing, N. J.	600
Pennsylvania	
Clearfield State Nursery - Clearfield, Penna.	370
Greenwood State Nursery - Petersburg, Penna.	411
Mt. Alto State Nursery - Mt. Alto, Penna.	366
Rockview State Nursery - Pleasant Gap, Penna.	354
S.C.S. Nursery - Mt. Eagle, Penna.	215
Wilmore Realty Co. Nursery - Windber, Penna.	215
Andorra Nursery - Chester Hill, Penna.	1,065
Fairview Nursery - Fairview, Penna.	559
Doyle Nursery - Seven Stars, Penna.	581
	4,156

Table 99 - Special Ribes Nigrum Elimination Work Conducted Under All Programs in Northeastern States During Period 1918-1940, Inclusive

By Programs

Program		Regular	P.W.A.	W.P.A.	C.W.A.	E.R.A.	Totals
No. Properties Inspected		1,082,878	6,157	180,313	195,750	240,335	1,705,433
No. Patches Located		14,227	39	869	5,404	25,858	46,397
No Ribes Pulled	Nigrum	85,624	7,486	3,156	-	7,110	103,376
	Other Cult	20,550	-	432	-	23,701	44,683
	Total	106,174	7,486	3,588	-	30,811	148,059
Total Man Days		14,155	375	1,081	1,850	11,675	29,136
Cost	Individuals	$2,351.80	$777.00	$496.50	-	-	$3,625.30
	Towns	-	-	-	-	$901.00	$901.00
	State	59,566.54	52.25	356.52	-	601.66	60,575.41
	B.P.I.	4,422.95	-	-	-	-	4,422.95
	P.W.A.	1,386.06	581.54	-	348.24	654.55	2,970.39
	C.C.C.	-	-	-	-	218.40	218.40
	W.P.A.	-	-	4508.45	-	-	4,508.45
	C.W.A.	-	-	-	8,626.21	-	8,626.21
	E.R.A.	-	-	-	-	59,568.50	59,568.50
	Total	67,727.35	1,410.79	5,361.47	8,974.45	61,944.11	145,418.17
% of Total		46.5	1.0	3.7	6.2	42.6	100

C.W.A. project consisted of location work only.

Table 100- Special Ribes Nigrum Elimination Work Conducted Under All Programs In Northeastern States, 1918-1940, Inclusive.

By States

State		Mass.	R.I.	Conn.	N.Y.	Totals
No. Properties Inspected		750,359	110,137	318,344	526,593	1,705,433
No. Patches Located		6,657	1,917	32,695 (2)	5,128	46,397
No. Ribes Pulled	Nigrum	42,629 (1)	16,219	7,464	37,064	103,376
	Other Cult.	432	1,093	42,397	761	44,683
	Total	43,061	17,312	49,861	37,825	148,059
Total Man Days		7,347	1,929	14,610	5,250	29,136
Cost	Indiv.	$3,625.30	-	-	-	$3,625.30
	Towns	-	-	$901.00	-	901.00
	State	20,740.41	$9,178.55	3,110.99	27,547.02	60,576.97
	B.P.I.	100.00	675.53	3,647.42	-	4,422.95
	P.W.A.	550.04	473.80	1,915.05	31.50	2,970.39
	C.C.C.	-	-	218.40	-	218.40
	W.P.A.	4,325.85	-	-	182.60	4,508.45
	C.W.A.	2,688.11	-	5,938.10	-	8,626.21
	E.R.A.	-	-	59,568.50	-	59,568.50
	Total	32,029.71	10,327.88	75,299.46	27,761.12	145,418.17
% of Total		22.0	7.1	51.8	19.1	100.0

(1) Includes 556 bushes pulled in connection with special black currant elimination project around nurseries in 1925 and 1926 at a cost of $367.89 to the state.

(2) The survey in Connecticut included all cultivated Ribes. It is estimated that the number of black currant patches in that state did not exceed 1,500.

Table 101 - Status of Ribes Nigrum Elimination Work in Northeastern States December 31, 1940.

State	Years Work Performed	Total Number Townships In State	No. Townships Where Black Current Elimination Work	
			Completed	Partially Completed
Mass.	1930-1940, Incl.	355	346*	-
R. I.	1929-1933, Incl.	39	39	-
Conn.	1930-1935, Incl.	169	169	-
N. Y.	1928-1940, Incl.	996	236	39
Totals	-	1,559	790	39

* Nine additional townships on the islands adjacent to the mainland will not be worked.

In conjunction with the regular control activities in the other states, wild bushes have been eradicated in the worked portions of the control areas. Few Ribes nigrum have been found in these latter states.

Table 102 - Blister Rust Canker Elimination Work Under All Programs in Northeastern States, 1918-1940, Inclusive

By States

State		Maine	N.H.	Vt.	Mass.	N.Y.	Penna.	Total
Period work performed		1932-40	1937	1935-40	1933-39	1935-39	1934-40	1932-40
Est. No. pines examined		155,792	28,581	208,416	4,751,450	1,470,670	919,478	7,534,387
No. fatally inf. pines cut down		11,219	5,731	38,556	30,956	145,758	32,595	264,815
No. pines from which cankers removed		21,596	638	18,841	16,210	187,981	129,975	376,241
No. cankers removed	Branch	46,334	711	21,661	21,348	250,066	566,925	907,045
	Stem	4,596	-	421	-	1,386	1,974	8,377
Total man days		2,937	219	2,226	8,145	11,619	7,306	32,452
Cost	Individuals	$2,212.84	-	$446.02	-	$240.00	-	$2,898.86
	Towns	-	-	455.00	$3,129.00	-	-	3,584.00
	State	31.65	-	32.50	67.98	1,580.26	-	1,712.39
	Park Service	321.04	-	-	-	-	-	321.04
	C.C.C.	3,922.90	-	-	-	-	8,203.09	12,125.99
	N.P.A.	-	$779.37	6176.91	7,958.94	45,477.02	10,959.91	71,352.15
	C.W.A.	-	-	-	24,255.74	-	-	24,255.74
	Total	$6,488.43	$779.37	$7,110.43	$35,391.66	$47,297.28	19,163.00	$116,229.37
% of Total		5.6	0.7	6.1	30.4	40.7	16.5	100

Table 103 - Blister Rust Canker Elimination Work Under All Programs in Northeastern States, 1918-1940, Inclusive.

By Programs

Program		Regular	C.C.C.	W.P.A.	C.W.A.	Total
Period work performed		1932-40	1933-39	1935-40	1933-34	1932-40
No. pines examined		115,578	625,279	2,145,530	4,648,000	7,534,387
No. fatally inf. pines cut down		9,657	31,265	206,590	17,303	264,815
No. pines from which cankers removed		14,345	84,927	263,185	12,784	375,241
No. cankers removed	Branch	22,009	485,509	382,016	17,511	907,045
	Stem	2,113	2,758	3,506	-	8,377
Total man days		913	6,741	19,389	5,409	32,452
Cost	Individuals	$2,658.86	-	$240.00	-	$2,898.86
	Towns	50.00	-	3,534.00	-	3,584.00
	State	43.65	-	1,668.74	-	1,712.39
	Park Service	321.04	-	-	-	321.04
	C.C.C.	-	$12,125.99	-	-	12,125.99
	W. P. A.	-	-	71,332.15	-	71,332.15
	C. W. A.	-	-	-	$24,255.74	24,255.74
	Total	$3,073.55	$12,125.99	$76,774.89	$24,255.74	$116,230.17
% of Total		2.6	10.4	66.1	20.9	100.0

Table 104 - Pine and Control Area Mapping Conducted Under All Programs in Northeastern States During Period 1933-1940, Inclusive.

By States

State	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Man Days	Cost							
					Towns and Counties	State	C.C.C.	P.W.A.	W.P.A.	E.R.A. & C.W.A.	B.E. & P.Q.	Total
Maine	2,117,757	4,542,182	1,808½	32,796	-	3,105.33	16,956.86	6,538.14	118,634.01	-	17.60	145,251.9
N. H.	1,314,263	224,364	-	34,990	843.11	1,425.14	11,168.98	9,443.25	126,820.80	-	1.25	149,702.[illegible]
Vt.	1,548,047	3,755,587	810	20,850	1,936.31	1,234.47	4,800.57	1,946.18	70,338.93	-	-	80,256.[illegible]
Mass.	806,363	946,867	1,160	17,460	2,413.10	1,675.21	-	2,898.14	68,713.67	3,112.25	41.75	78,854.1[illegible]
R. I.	225,660	-	-	2,264	-	820.25	7,675.26	2,009.28	3,443.36	--	-	13,948.1[illegible]
Conn.	728,888	2,611,319	3,202½	25,168	5,530.79	1,325.48	827.60	568.10	* 96,806.30	22,211.70	420.29	127,690.[illegible]
N. Y.	**3,899,749	1,566,850	2,399	37,489	-	23,804.38	2,388.49	14,559.60	135,096.96	-	25.11	175,874.[illegible]
Penna.	730,993	-	6,494	42,020	-	-	100,554.07	1,266.87	59,772.08	-	4.00	161,597.[illegible]
Totals	11,371,720	13,647,169	15,873¾	213,037	10,723.31	33,390.26	144,371.83	39,229.56	679,626.11	25,323.95	510.00	933,175.[illegible]

* Includes $82,172.99 W.P.A. funds spent on special state project.

** Includes considerable acreage of woodland spot-mapping.

By Programs

Program	Acreage Mapped	Acreage Examined But Not Mapped	Miles Boundary Lines Painted	Man Days	Cost							
					Towns and Counties	State	C.C.C.	P.W.A.	W.P.A.	E.R.A. and C.W.A.	B.E. & P.Q.	Total
Regular	393,940	236,160	-	2,029	-	9,645.80	-	-	-	-	-	9,645.[illegible]
C.C.C.	992,554	364,002	2,503	37,838	-	189.59	144,371.83	-	-	-	-	144,561.[illegible]
P.W.A.	744,663	942,528	227	6,915	-	1,025.28	-	39,229.56	-	-	-	40,254.[illegible]
Federal W.P.A.	8,637,293	9,816,071	10,225½	144,431	5,367.52	21,858.81	-	-	597,453.12	-	510.00	625,189.[illegible]
E.R.A.	213,971	2,139,370	-	4,205	-	-	-	-	-	22,211.70	-	22,211.[illegible]
C.W.A.	45,761	34,138	-	592	-	-	-	-	-	3,112.25	-	3,112.[illegible]
State W.P.A.	343,538	114,900	2,918¼	17,027	5,355.79	670.78	-	-	82,172.99	-	-	88,199.[illegible]
Totals	11,371,720	13,647,169	15,873¾	213,037	10,723.31	33,390.26	144,371.83	39,229.56	679,626.11	25,323.95	510.00	933,175.[illegible]

Table 105 - Status of Pine and Control Area Mapping in Northeastern States

April 30, 1941

State	No. Townships			Status of Mapping in Townships Within Permanent Pine Production Area								Mapping Performed in Townships Outside Permanent Pine Production Area			
	Within Permanent Pine Production Area	Outside Permanent Pine Production Area	Total	Detailed Mapping						Spot Mapping		Detailed Mapping		Spot Mapping	
				Completed		Partly Completed		No Work Done							
				No.	%	No.	%	No.	%	Completed	Partly Completed	Completed	Partly Completed	Completed	Partly Completed
Maine	321	600	921	262	31.6	12	3.7	47	14.7	-	-	44	1	-	-
N. H.	225	33	258	74	32.9	84	37.3	67	29.8	-	-	-	-	-	-
Vt.	148	103	251	136	91.9	7	4.7	5	3.4	-	-	88	2	-	-
Mass.	238	113	351	98	41.2	12	5.0	128	53.8	-	-	23	-	-	-
R. I.	15	24	39	5	33.3	6	40.0	4	26.7	-	-	-	-	-	-
Conn.	43	126	169	43	100.0	0	-	0	-	-	-	125	1	-	-
N.Y.	838	158	996	278	33.2	60	7.1	500	59.7	640	-	4	-	24	-
Penna.	1080	500	1580	281	26.0	336	31.1	463	42.9	661	207	-	1	-	1
Totals	2908	1657	4565	1177	40.5	517	17.8	1214	41.7	1301	207	284	5	24	1

It is questionable whether the remaining townships outside the permanent pine production area, especially in Maine and Pennsylvania, should be mapped due to the inaccessibility of most of the areas in Maine, and the scattered distribution and small acreage of the white pine units in Pennsylvania.

STATUS OF WHITE PINE AND CONTROL AREA MAPPING IN THE NORTHEASTERN STATES - APRIL 30, 1941

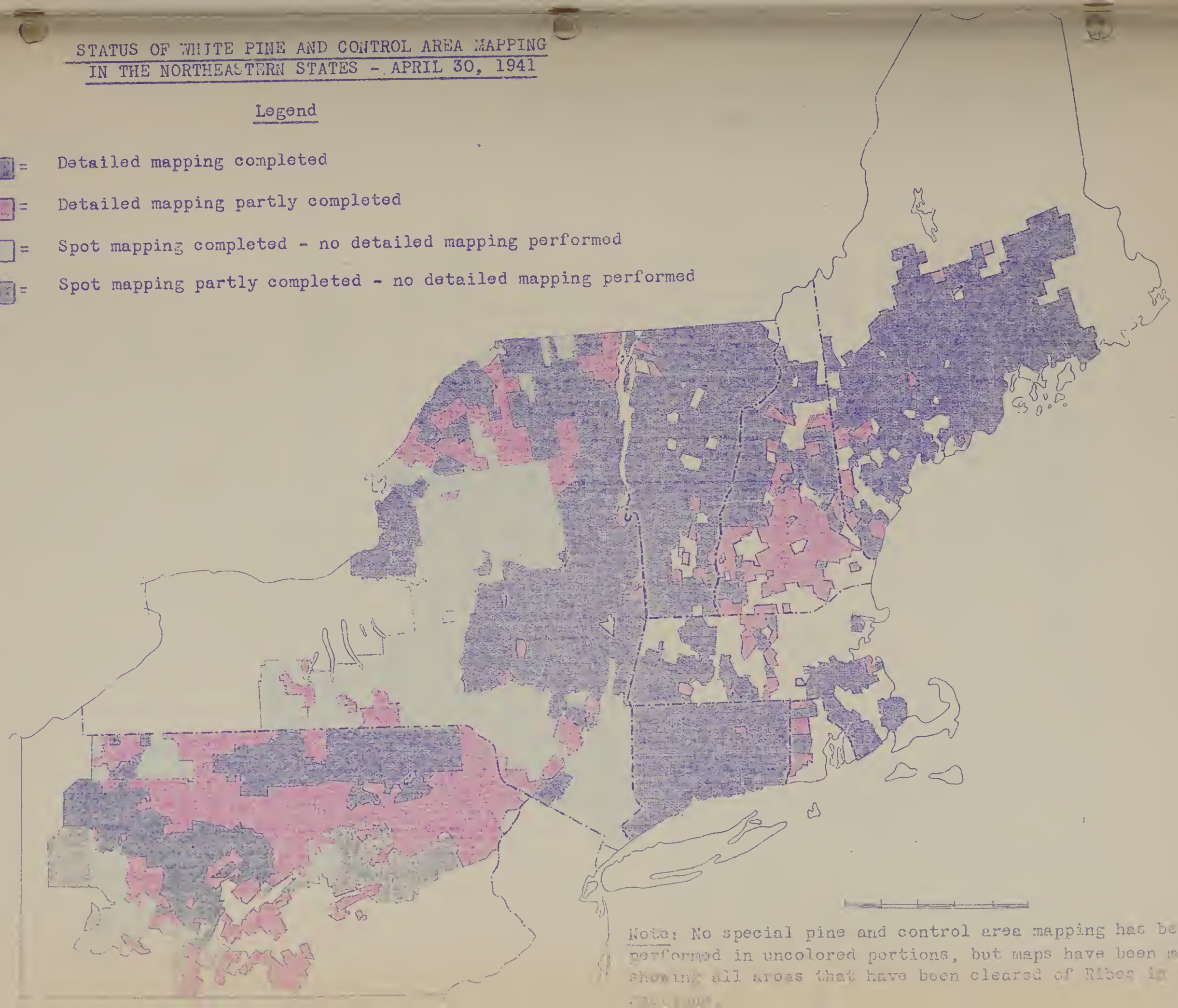
Legend

= Detailed mapping completed

= Detailed mapping partly completed

= Spot mapping completed - no detailed mapping performed

= Spot mapping partly completed - no detailed mapping performed



Note: No special pine and control area mapping has been performed in uncolored portions, but maps have been made showing all areas that have been cleared of Ribes in these portions.

Table 106 - State Compensation Paid for Cultivated Ribes Destroyed Under All Programs in Northeastern States 1918-1940, Inclusive.

State	Total No. Cultivated Ribes Destroyed	No. Bushes Paid For	% Bushes Paid For	No. Persons Paid Compensation	Amount Paid in Reinbursement	Ave. Amount Paid Per Bush
Maine	151,300	-	-	-	-	-
N. H.	155,676	2,008	1.3	63	$550.60	$.274
Vt.	17,243	1,646	9.5	133	792.91	.482
Mass.	322,437	42,074	13.0	673	15,020.15	.357
R. I.	41,561	1,410	3.4	58	509.79	.362
Conn.	90,468	175	0.2	16	103.50	.591
N. Y.	173,086	16,338	9.4	1,151	5,587.99	.342
N. J.	1,842	-	-	-	-	-
Penna.	52,839	336	0.6	54	153.00	.455
Totals	1,006,452	63,987	6.4	2,148	$22,717.94	$.355

The Vermont data include $86.25 compensation paid by individual cooperators in 1926 and 1933 to ten owners of cultivated Ribes for the removal of 181 bushes.

The Massachusetts data include $5,655.05 paid in 1918 to 253 persons for 16,517 bushes destroyed in 1917 and 1918, mostly in 1917. It is impossible to separate the 1917 data.

The Connecticut data include $76.25 paid in 1930 by individual cooperators (nurserymen) to 12 owners of cultivated Ribes for the removal of 114 bushes.

The Pennsylvania data represent payments made by individual cooperators (nurserymen) during 1936 and 1937.

No federal money has been paid for Ribes compensation. For the first time since the blister rust control program was inaugurated in 1918, no compensation was paid in any of the Northeastern States during 1940 when 12,744 cultivated Ribes were destroyed.

Table 107 - Total Cost of All Cooperative Blister Rust Control Activities, By Projects, in The Northeastern States During Period 1918-1940, Inclusive.

State	Supervision and BRC Agent Activities	Ribes Eradication	Eradication Assistants and Checkers	Black Currant Elimination	Nursery Sanitation	Ribes Compensation.	Blister Rust Canker Elimination	Pre-Erad. Surveys	Field Data and Misc.	Totals
Maine	378.906.40	1,008,486.06	110.573.71	-	(1) 11,024.66	-	6,488.43	145,251.94	27,311.31	1,688,042.51
N. H.	550,388.40	1,205,481.99	93,691.41	-	968.45	550.60	779.37	149,702.53	61,860.65	2,063,423.40
Vt.	210,858.48	436,785.15	32,459.34	-	1,284.18	792.91	7,110.43	80,256.46	34,790.68	804,337.63
Mass.	401,238.55	685,915.04	21,765.97	32,029.71	(2) 6,113.00	15,020.15	35,391.66	78,854.12	52,152.03	1,328,480.23
R. I.	64,766.77	161,395.97	26,052.87	10,327.88	1,928.10	509.79	-	13,948.15	9,310.25	288,239.78
Conn.	153,326.73	350,055.96	72,215.27	75,299.46	9,067.16	103.50	-	127,690.26	131,600.15	919,358.49
N. Y.	621,266.95	2347,123.30	345,939.01	27,761.12	21,262.70	5,587.99	47.297.28	175,874.54	329,477.47	3,921,610.37
N. J.	22,897.12	6,915.69	1,952.88	-	(3) 685.90	-	-	-	4,559.08	37,010.67
Penna.	162,472.72	974,527.60	171.515.70	-	10,068.41	155.00	19,163.00	161,597.02	30,796.11	1,530,295.45
Total	2,566,122.12	7,176,686.76	876,166.16	145,418.17	62,422.56	22,717.94	116,230.17	973,175.02	681,857.78	12,580,796.93
%Total	20.4	57.1	7.0	1.2	0.5	0.1	0.9	7.4	5.4	100.0

(1) Includes $9,500.00 (charge of $500.00 per year) for nursery inspection work from 1918-1936, inclusive.
(2) Includes $514.85 for special nursery inspection work during 1933-1934.
(3) Includes $224.36 for special nursery inspection work during 1932.

Table 108 - [illegible] Blister Rust Control Activities
in The Northe[illegible] During The Period 1916-1940, Inclusive.

	State	Maine	N. H.	[illegible]	R. I.	Conn.	N. Y.	N. J.	Penna.	All States
State Funds	State Appropriations	141,054.89	298,962.1[illegible]	[illegible]	67,048.05	142,870.28	1,242,672.40	16,828.15	113,427.88	2,383,067.04
	Towns	125,902.42	420,768.7[illegible]	[illegible]	-	26,824.80	90.00	-	-	611,732.57
	Individuals	84,970.06	47,805.5[illegible]	[illegible]	581.36	9,236.57	172,500.42	-	2,189.23	491,316.97
	Counties	-	1,724.[illegible]	[illegible]	-	-	33,524.09	-	-	35,248.17
	Total State Funds	349,957.37	769,250.[illegible]	[illegible]	67,629.41	178,930.65	1,448,786.91	16,828.15	115,617.11	3,521,364.75
Federal Funds	Regular: P.F.I.	249,874.54	434,415.50	[illegible]	43,883.63	104,065.16	479,769.34	6,271.23	31,619.21	1,791,601.69
	Regular: B.E. & P. O.	49,126.60	46,664.93	[illegible]	3,276.04	22,216.34	30,671.46	2,949.69	54,506.60	288,354.51
	Regular: Park & Forest Service	9,780.69	2,442.11	[illegible]	-	-	-	-	779.77	13,002.57
	Regular: Sub-Total	308,781.83	483,542.54	[illegible]	47,159.67	125,281.50	530,440.80	9,220.92	86,905.78	2,092,958.82
	Emergency: C.C.C.	454,855.53	149,340.77	[illegible]	109,647.29	175,252.91	736,678.10	346.50	833,505.63	2,558,792.16
	Emergency: P.W.A.	69,128.95	66,527.42	[illegible]	12,427.98	22,470.39	92,334.23	3,031.48	46,474.63	397,763.96
	Emergency: W.P.A. State Program	-	-	[illegible]	-	232,690.84	324.90	-	9,400.00	242,415.74
	Emergency: W.P.A. Federal Program	603,892.03	592,687.44	[illegible]	43,938.03	83,153.93	1,073,342.67	7,303.37	425,311.69	3,580,914.25
	Emergency: C.W.A.	-	-	[illegible]	-	5,938.10	-	-	-	37,072.16
	Emergency: E.R.A.	1,426.80	-	[illegible]	-	94,478.[illegible]	2,779.70	-	-	109,683.10
	Emergency: A.A.A.	-	-	[illegible]	1,640.00	1,152.71	8,010.58	-	4,254.65	15,057.94
	Emergency: S.C.S.	-	-	[illegible]	5,797.19	-	8,812.27	230.27	3,613.27	24,552.99
	Emergency: N.Y.A.	-	-	[illegible]	-	-	-	-	220.80	220.80
	Emergency: Sub-Total	1,029,303.31	810,625.42	[illegible]	173,450.49	615,146.34	1,942,362.65	10,961.60	1,347,780.67	6,966,473.11
	Total Federal Funds	1,338,085.14	1,294,167.96	[illegible]	220,610.36	740,427.84	2,472,823.42	20,182.52	1,434,686.45	9,059,431.93
Grand Total		1,688,042.51	2,063,425.40	[illegible]	288,239.78	919,358.49	3,921,610.36	37,010.67	1,550,293.56	12,580,796.68
Percentage of Total		13.4	16.4	[illegible]	2.3	7.3	31.2	0.3	12.2	100.0

* Includes expenditures for district [illegible]
Maine - $693.32; Vermont - $753.32; [illegible] $733.75; Rhode Island - $61.11; Pennsylvania - $108.35; Total - $3,354.35.

[illegible] from Cambridge office W.P.A. Administrative Allotments as follows:-

109

	Pure White Pine (60-100% white pine)		Mixed Types Containing White Pine		Other Types With 1-20% White Pine Above Restocking Size and Also Pine Restocking	Total (a+b+c)	
	6" and Over DBH	Under 6" DBH	30-79%	21-29%			
	504,790	284,400	794,915	246,258	976,468	2,603,311	
	263,525	548,225	278,396	295,439	157,477	1,544,063	
	29,924	73,453	150,147	78,415	225,146	557,084	
	162,113	288,686	273,236	53,765	170,734	948,564	
	13,348	436	-	-	59,417	73,196	
	52,697	40,729	66,551	57,794	18,395	236,164	
	234,600	457,171	242,218	231,899	170,269	1,316,957	
	1,020,992	1,698,190	1,815,465	976,370	1,777,884	7,288,899	
	600	1,500	2,000	1,500	2,000	7,600	
	51,254	40,043	28,078	98,023	157,630	575,628	
	1,075,446	1,734,733	1,845,541	1,076,393	1,937,514	7,667,127	

*Excludes those "other types" which have 1-20 percent white pine (above restocking size) but do not contain white pine restocking.

Table 110 - Commercial Value of White Pine in Northeastern States

	Pure White Pine (60-100% white pine)		Mixed Types Containing White Pine		Other Pine (Above restocking size) in Other Types*	White Pine Restocking in All Types Except Pure White Pine Under 6" DBH	
	6" and Over DBH	Under 6" DBH	30-79%	21-29%			
	$ 34,136,480	$ 7,122,250	$ 44,515,240	$6,951,224	$8,855,205	$2,568,194	
	29,514,912	13,705,625	15,588,496	8,500,292	1,102,539	707,554	
	3,361,376	1,836,325	8,965,232	2,195,620	1,576,022	412,279	
	18,156,656	7,217,150	15,302,896	1,785,420	1,195,158	599,752	
	1,494,416	10,900	-	-	415,919	80,813	
	5,662,064	1,018,225	3,723,856	1,616,232	128,661	85,568	
	24,035,200	11,429,275	13,564,208	6,487,572	1,191,805	419,081	
	114,351,104	42,329,750	101,666,928	27,356,360	12,445,198	4,256,034	
	67,200	37,500	112,000	42,000	14,000	5,000	
	5,807,648	1,001,075	1,572,368	2,744,644	1,103,420	226,092	
	$120,229,956	$43,868,326	$205,350,296	$60,123,004	$28,062,549	$9,054,316	

*Excludes those "other types" which have 1-20 percent white pine (above restocking size) but do not contain white pine restocking.

Basis for estimating value of merchantable white pines, stumpage figured at normal value of $7.00 per M - average contents per acre, pure merchantable white pine 18 M board feet; mixed white pine, 30-79% - 8 M board feet; mixed white pine, 21-29% - 4 M board feet; and white pine, above restocking size, in other types - 2 M board feet. Pure stands of white pine under 6" DBH given normal value of $65.00 per acre; for estimating normal per acre value of white pine restocking, degree of cut: light - $1.00, medium - $2.00, heavy - $3.00.

Table 111 - Relation of Total Cost of All Control Activities to Total Commercial Value of White Pine in Northeastern States

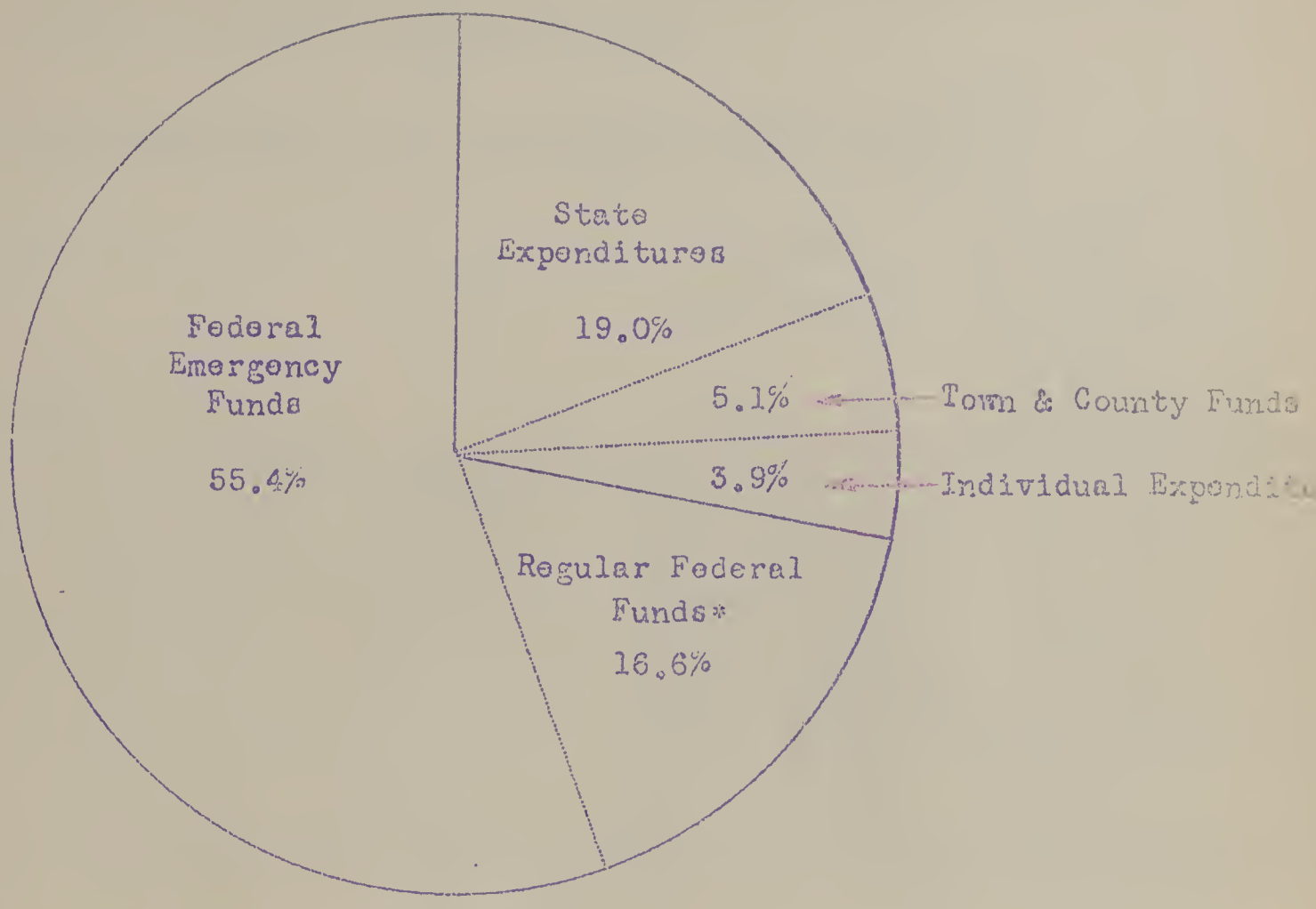
State	Acreage of White Pine	Commercial Value of White Pine	Total Cost of All Control Activities	Percentage of Total Commercial Value of Pine Represented by Cost of all Control Activities	Percentage of Present Total Control Area Protected	
					Initial	Re-Erad
Maine	2,608,911	$102,109,599.	$1,688,042.51	1.7	75.6	23.1
N. H.	1,544,033	68,919,198.	2,063,423.40	3.0	92.7	26.5
Vt.	567,084	18,339,854.	804,337.63	4.4	52.6	16.1
Mass.	958,564	44,257,012.	1,328,180.28	3.0	98.9	14.4
R. I.	73,196	2,002,053.	288,239.78	14.4	97.9	90.8
Conn.	210,154	10,240,416.	919,358.49	9.0	88.0	75.3
N. Y.	1,315,957	57,127,222.	3,921,610.36	6.9	72.8	23.2
N. J.	7,600	275,700.	37,010.67	13.4	47.0	4.0
Penna.	375,628	12,455,437.	1,530,293.56	12.3	44.6	17.6
Totals	7,667,127	315,726,491.	12,580,796.68	4.0	79.1	30.0

The comparatively high percentage figures in Rhode Island, New Jersey and Pennsylvania may be attributed to the following facts. In Rhode Island, over a hundred thousand acres of potential pine land has been cleared of Ribes in addition to the protection of the pine area. The value of the potential pine acreage is not, of course, included in the pine values. In New Jersey and Pennsylvania, the pine areas are small and scattered necessitating larger proportionate protection zones. In both states, practically all the control work has been performed by inexperienced men employed on Emergency Programs. The cost of control activities in Pennsylvania and New Jersey prior to the beginning of Ribes eradication work in 1929 and 1934, respectively, is included in the total expenditure figures. Only 16,742 acres have been initially worked in New Jersey. The major control activities in that state comprise scouting, field studies, nursery sanitation, and informational and service work. In Pennsylvania, the Ribes are numerous and of large size. Many of the pine areas are in remote hilly sections at considerable distance from roads.

The total cost includes $6,966,473.11 Federal Emergency money expended on control work since 1933. This amount represents 55.4 percent of the total expenditures since 1918. A portion of the Emergency money could properly be charged to relief rather than control activities.

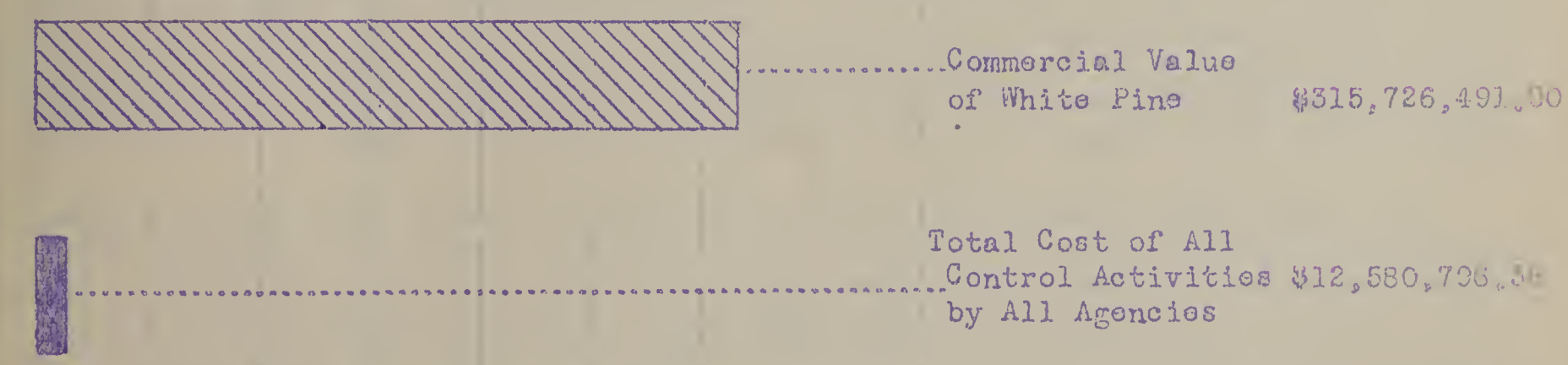
The basis for acreages and values of white pine are given on Page 142.

COOPERATIVE BLISTER RUST CONTROL EXPENDITURES
IN NORTHEASTERN STATES, 1918-1940, INCLUSIVE.



Total Expenditures - $12,580,796.38
* Includes $13,002.57 by Forest and Park Services

Relation Commercial Value of White Pine to Total Cost of All Control Activities in Northeastern States 1918-1940, Inclusive.



Total control cost represents 4.0% commercial pine value.

Table 112- Per Acre Cost of Ribes Eradication Work in Northeastern States During Period 1918 to 1940, Inclusive

(Based on Ribes eradication costs only and on the total costs of all control activities by all cooperating agencies)

State	Total Acreage Cleared of Ribes (Initial & Re-Erad.)	Number Ribes Pulled		Total Cost of Ribes Eradication*	Total Cost of All Control Activities	Ribes Per Acre (Wild only)	Cost Per Acre	
		Wild	Cult.				Based on Eradication Costs Only	Based on Total Expenditures For all Projects
Maine	2,960,862	56,181,958	151,278	$1,008,486.06	$1,688,042.51	19.0	.341	.570
N. H.	3,999,419	67,263,906	155,675	1,205,481.99	2,063,423.40	16.8	.301	.516
Vt.	598,957	13,744,658	17,168	436,785.15	804,337.63	22.9	.729	1.34
Mass.	2,941,162	21,821,460	279,082	685,915.04	1,328,480.28	7.4	.233	.452
R.I.	622,062	603,004	23,500	161,395.97	288,239.78	1.0	.259	.463
Conn.	822,767	7,089,741	39,567	350,055.96	919,358.49	8.6	.425	1.12
N.Y.	3,022,013	68,424,603	133,381	2,347,123.30	3,921,610.36	22.6	.777	1.30
Penn'y	14,967,242	235,129,330	799,651	6,195,243.47	11,013,492.45	15.7	.414	.736
N.J.	18,159	64,736	1,728	6,915.69	37,010.67	3.6	.381	2.04
Va.	757,149	36,978,940	52,274	974,527.60	1,530,293.56	48.8	1.29	2.02
Totals	15,742,550	272,173,006	853,653	$7,176,686.76	12,580,796.68	17.3	.456	.799

* Excludes nursery sanitation and Ribes nigrum elimination.

No satisfactory comparison can be made between the per acre costs in the various states, due to numerous factors directly affecting the cost of the eradication work. The lower per acre cost in Maine, New Hampshire, Massachusetts and Rhode Island may be attributed in part to the localization of the Ribes in certain sections and that under the Regular program large portions have been worked by scouting methods. In New York, Pennsylvania, and Vermont, the cost has been increased by the size and abundance of the Ribes, and in the first two states by the ruggedness of the topography and the inaccessibility of many of the control areas. The small size and scattered distribution of the pine areas in Pennsylvania, New Jersey, and Connecticut has likewise increased per acre costs in these states. Most of the control work in Pennsylvania and New Jersey has also been performed under various Emergency programs with an inexperienced personnel. In New Jersey, only a few thousand acres have been cleared of Ribes; the control activities being confined chiefly to pine and infection scouting, field studies, nursery sanitation, and informational and service activities by part-time employees. In 1933, the per acre cost in New England and New York, based on Ribes eradication work only and on the total area worked up to that time, amounted to 22.7 cents. By 1939, it had increased to 63.3 cents chiefly due to the less efficient work performed under the Emergency programs, but this average cost was reduced to 54.2 cents in 1940.

The compilation of per acre values on the basis of total costs of all control activities by all cooperating agencies is probably not justifiable, because such expenditures include among other items the cost of field surveys and studies, informational and service activities, nursery sanitation, canker elimination, and Ribes nigrum elimination which are not directly related to the regular Ribes eradication work and cannot in most instances be figured on a per acre basis.

TABLE #1
SHEET #1

TABLE #1

SUMMARY OF 1940 RIBES ERADICATION

State	Initial Eradication Work				Reeradication Work				Totals				Percent Initial Erad. Worked**
	Acreage Worked	Number Ribes Destroyed		Number* 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days	
		Wild	Cult.			Wild	Cult.			Wild	Cult.		
Maine	38,476	897,608	662	9,935	68,410	832,166	558	14,045	106,886	1,729,774	1,220	23,980	1.4
New Hampshire	19,171	794,698	635	5,235	54,379	671,408	613	8,580	73,550	1,466,106	1,248	13,815	0.6
Vermont	23,905	741,399	320	7,258	5,037	106,173	157	1,413	28,942	847,572	477	8,671	2.7
Massachusetts	29,819	143,103	311	3,293	53,623	348,346	466	7,206	83,442	491,449	777	10,499	1.6
Rhode Island	3,500	777	-	520	25,364	18,079	30	4,640	28,864	18,856	30	5,160	1.1
Connecticut	15,582	121,976	124	853	62,597	556,000	798	8,302	78,179	677,976	922	9,155	3.1
New York	154,330	3,052,208	2,457	22,472	73,648	610,007	558	12,763	227,978	3,662,215	3,015	35,235	5.3
Pennsylvania	51,581	1,817,837	4,558	20,426	22,416	259,486	101	12,298	73,997	2,077,323	4,659	32,724	4.5
Total	336,364	7,569,606	9,067	69,992	365,474	3,401,665	3,281	69,247	701,838	10,971,271	12,348	139,239	2.5

* Number 8-hour man-days = $\frac{\text{hours worked per day} \times \text{number men}}{8}$

** Percentage of total white pine control acreage in State that was worked during 1940.

TABLE #1

SUMMARY OF 1940 RIBES ERADICATION

TABLE #1

SHEET #2

State	Ribes per Acre		Man-Days Per Acre		Number of Camps				Number of Employees					
									Laborers					
	Initial Eradication	Reeradi-cation	Initial Erad.	Reeradi-cation	C.C.C. & S.C.S.	W.P.A.	Reg.	Total	C.C.C. & S.C.S.	W.P.A.	Reg.			All Employees
Maine	23.5	12.2	.26	.21	3	-	-	3	167	251	16			500
New Hampshire	41.5	12.3	.27	.16	2	-	-	2	21	196	255		10	529
Vermont	31.0	21.1	.30	.28	3	-	-	3	86	126	-			220
Massachusetts	4.3	6.3	.11	.17	3	-	-	3	29	350	18			396
Rhode Island	0.2	0.7	.15	.16	4	-	-	4	85	16	-			106
Connecticut	7.6	6.9	.05	.13	7	-	-	7	131	45	-			186
New York	19.8	8.3	.15	.17	19	-	-	19	276	370	95		54	795
Pennsylvania	35.2	11.6	.40	.25	27	-	-	27	614	119	102			850
Total	22.9	9.3	.21	.19	68	-	-	68	1409	1253	582			3575

* Enter the maximum number of persons on the pay roll at the peak of the season. Total number persons employed is not desired because the large turnover in W.P.A. camps would result in an exaggerated figure.

TABLE #2

SUMMARY OF 1940 RIBES ERADICATION BY PROGRAMS
(Including all work - Initial and Reeradication)

States	Total Acreage Worked. (Initial and Reeradication)	Regular and Cooperative				W.P.A.			
		Acreage Worked	No. Ribes Destroyed		Number 8-Hour Man-Days	Acreage Worked	No. Ribes Destroyed		Number 8-Hour Man-Days
			Wild	Cult			Wild	Cult	
Maine	106,886	9,027	89,780	87	1349	73,568	1,189,580	6[illegible]	13,094
New Hampshire	73,550	22,941	391,078	57	3297	49,774	1,051,784	1191	9,885
Vermont	28,942	-	-	-	-	20,304	787,065	[illegible]	6,422
Massachusetts	83,442	1,849	23,603	-	408	74,594	425,717	7[illegible]	5,580
Rhode Island	28,864	-	-	-	-	8,718	10,854	7	1,031
Connecticut	78,179	-	-	-	-	38,141	272,902	1[illegible]	2,640
New York	227,978	53,449	663,056	766	4605	147,151	2,571,556	9[illegible]	20,165
Pennsylvania	73,997	3,465	66,007	7	886	28,167	1,317,868	8	5,930
Total	701,838	90,731	1,233,524	917	10,545	440,417	7,627,306	5[illegible]	65,803

All Ribes eradication work under W.P.A. Program in Connecticut during 1940 performed under State W.P.A. Program - no Federal agency W.P.A. project in state in 1940.

TABLE #2

SUMMARY OF 1940 RIBES ERADICATION BY PROGRAMS

(Including all work - Initial and Reeradication)

TABLE #2
SHEET #2

States	E.C.W. and S.C.S. *				Totals			
	Acreage Worked	No. Ribes Destroyed		Number 8-Hour Man-days	Acreage Worked	No. Ribes Destroyed		Number 8-Hour Man-days
		Wild	Cult			Wild	Cult.	
Maine	24,291	450,414	436	9,537	106,886	1,729,774	1,220	23,190
New Hampshire	835	23,264	-	630	73,550	1,466,106	1,248	19,675
Vermont	8,638	60,507	69	2,249	28,942	847,572	477	8,671
Massachusetts	6,999	42,129	-	1,511	83,442	491,449	777	10,588
Rhode Island	20,146	8,002	8	4,079	28,864	18,856	30	5,160
Connecticut	40,038	405,074	763	6,515	78,179	677,976	922	9,156
New York	27,378	427,603	199	10,462	227,978	3,662,215	3,015	32,178
Pennsylvania	42,365	693,448	3,694	24,908	73,997	2,077,323	4,659	38,140
Total	170,690	2,110,441	5,169	59,891	701,838	10,971,271	12,348	156,758

* See other side for separate summary of S.C.S. work.

RESULTS OF RIBES ERADICATION WORK UNDER S.C.S. PROGRAM - 1940

State	Acreage Worked	Number Ribes Destroyed Wild	Cult.	Number 8-Hour Man-Days
Rhode Island ...	12,814	2,947	0	2,314

TABLE #3
SHEET #1

TABLE #3
SUMMARY OF ALL OTHER CONTROL WORK FOR 1940

States	Cultivated Black Currant Eradication				Nursery Sanitation						Reconnaissance Survey **	
	Number Inspections Made	Number Locations Found	No. Black Currants Destroyed	No. 8 Hr. Man-Days	No. Nurs. Worked	No. White Pines in Nurseries	No. Acres Worked	No. Ribes		No. 8 Hr. Man-Days	No. Acres Scouted W.P. R. Zones	No. 8 Hr. Man-Days
								Wild	Cult.			
Maine	-	-	-	-	1	91,500	203	187	0	19	113,731	2,001
New Hampshire	-	-	-	-	2	1,845,000	540	19	0	11	125,493	3,202
Vermont	-	-	-	-	-	-	-	-	-	-	143,559	2,824
Massachusetts	25,548	21	390*	138	-	-	-	-	-	-	57,253	1,789
Rhode Island	-	-	-	-	-	-	-	-	-	-	-	-
Connecticut	-	-	-	-	2	956,000	1,525	454	0	37	80,782	5,020
New York	76	1	6	5	2	13,750,000	2,755	742	0	124	365,161	5,422
Pennaylvania	-	-	-	-	9	9,590,500	4,106	766	0	284	71,826	2,961
Total	25,624	22	396	143	16	26,233,000	9,129	2,168	0	479	962,470	23,219

* Includes 371 Ribes nigrum and 19 other cultivated bushes.
** Detailed mapping

TABLE #3
SHEET #2

TABLE #3
SUMMARY OF ALL OTHER CONTROL WORK FOR 1940

State	Treatment Infected Trees					Checking					
						Advance		Post		Regular	
	No. Trees Examined	No. Trees Treated	No. Trees Removed	No. Cankers Removed	Number 8-Hour Man-Days	Acreage Checked	Number 8-Hour Man-Days	Acreage Checked	Number 8-Hour Man-Days	Acreage Checked	Number 8-Hour Man-Days
Maine	651	158	57	432	33						
New Hampshire	-	-	-	-	-						
Vermont	2153	92	13	102	16						
Massachusetts	-	-	-	-	-						
Rhode Island	-	-	-	-	-						
Connecticut	-	-	-	-	-						
New York	-	-	-	-	-						
Pennsylvania	55,858	8,258	33	11,899	302						
Total	58,662	8,508	103	12,433	351						

TABLE #4
SHEET #1

TABLE #4
SUMMARY OF EXPENDITURES FOR 1940

State	Total			RECAPITULATION OF FEDERAL FUNDS						
				REGULAR FUNDS			EMERGENCY FUNDS			
	FEDERAL (All Agencies incl. "State WPA projects")	STATE (Inc. all Coop. Funds)	GRAND TOTAL	Bur. Ent. & P.Q.	Forest Service	Dept. of Interior*	Federal W.P.A. (1)	State W.P.A.	W.P.A. & C.W.S.	Total Emergency Funds
Maine	94,164.32	12,759.80	106,924.12	12,041.27	-	-	57,049.01	-	5,074.04	82,123.05
New Hampshire	70,276.14	13,724.89	84,001.03	10,888.76	-	-	57,398.61	-	1,988.77	59,387.38
Vermont	50,743.09	3,551.84	54,294.93	7,804.46	-	-	37,087.42	-	3,851.21	42,938.63
Massachusetts	53,919.41	6,217.81	60,137.22	11,300.43	-	-	38,819.41	-	3,130.57	42,618.98
Rhode Island	15,843.65	2,824.76	18,673.41	1,299.96	-	-	4,046.19	-	10,497.50	14,543.69
Connecticut	61,959.96	9,085.77	71,045.73	4,000.10	-	-	-	40,150.95	17,957.96	57,959.86
New York	144,824.03	48,794.23	193,618.26	11,042.49	-	-	105,121.69	-	7,659.05	133,781.54
Pennsylvania	118,588.80	4,308.03	122,896.83	7,678.81	-	-	35,477.29	-	67,832.70	110,909.99
Total	610,324.40	101,267.13	711,591.53	66,056.28	-	-	334,999.62	40,150.95	128,976.60	544,268.12

* Includes National Parks Indian Reservations and O & C

(1) Includes expenditures for district leaders' salaries paid from W.P.A. administrative funds allotted to [illegible] office as follows: Maine - $693.32; Vermont - $758.31; Massachusetts - $1733.28; and Pennsylvania - [illegible]

TABLE #4
SHEET #2

TABLE #4

SUMMARY OF EXPENDITURES FOR 1940

State	RECAPITULATION BY ACTIVITIES (FEDERAL & STATE)						
	SUPN. INCL. STATE AND DISTRICT LEADERS	RIBES ERADICATION	CULT. BLACK CURRANT ERADICATION	NURSERY SANITATION	CANKER ELIMINATION	PRE-ERADICATION SURVEY	[illegible]
Maine	19,528.42	70,487.08	-	70.16	128.20	9,657.99	[illegible]
New Hampshire	18,685.47	47,451.43	-	48.70	-	15,150.90	[illegible]
Vermont	15,489.79	27,170.13	-	-	62.00	10,691.72	[illegible]
Massachusetts	15,725.41	35,545.84	540.87	-	-	7,115.49	[illegible]
Rhode Island	4,118.50	13,020.14	-	-	-	-	[illegible]
Connecticut	7,187.74	26,211.00	-	134.13	-	20,955.63	[illegible]
New York	25,938.18	120,120.77	24.85	475.99	-	23,844.68	[illegible]
Pennsylvania	13,862.28	80,969.36	-	761.65	975.85	9,101.32	[illegible]
Total	120,535.79	420,975.75	565.72	1,490.63	1,166.05	96,547.91	[illegible]

* Includes $2,765.89 for woodland spot mapping.

TABLE #5

TABLE #5
SHEET #1

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP 1940

Land Ownership	Initial Eradication			Re-eradication			Totals		
	Acreage Worked	No. Ribes Destroyed *	No. 8-Hour Man-Days	Acres	Ribes*	Man-Days	Acres	Ribes*	Man-Days
National forests	-	-	-	-	-	-	-		-
O & C Revested lands	-	-	-	-	-	-	-		-
Other public domain	-	-	-	-	-	-	-		-
National parks	-	-	-	-	-	-	-		-
Indian Reservations	-	-	-	-	-	-	-		-
Subtotal Federal	-	-	-	-	-	-	-		-
State & private	336,364	7,578,673	69,992	365,474	3,404,946	69,247	701,838	10,983,619	139,239
Grand total	336,364	7,578,673	69,992	365,474	3,404,946	69,247	701,838	10,983,619	139,239

* Wild and cultivated

TABLE #5
SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP - 1940
NATIONAL PARKS
AND
NATIONAL FORESTS

TABLE #5
SHEET #2

NATIONAL PARKS (List separately)	INITIAL WORK			REERADICATION WORK			TOTALS		
	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days
(No work performed on National Forests and Parks during 1940)									
Total Nat. Parks									

TABLE #5

TABLE #5
SHEET #3

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP - 1940
INDIAN RESERVATIONS

INDIAN RESERVATIONS (List separately)	INITIAL WORK			REERADICATION WORK			TOTALS		
	Acreage Worked	Number Ribes Destroyed	Number 8-hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-hour Man-Days
(No work performed on Indian Reservations)									
TOTALS									

TABLE #5
SHEET #4

TABLE #5
SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP - 1940
(State & Private Lands)

State and Private Lands. (List by States)	Initial Work			Re-eradication Work			Totals		
	Acreage Worked	Number Ribes Destroyed*	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed*	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed*	Number 8-Hour Man-Days
Maine	38,476	895,270	9,935	68,410	832,724	14,045	106,886	1,727,994	23,980
New Hampshire	19,171	795,333	5,235	54,379	672,021	8,580	73,550	1,467,354	13,815
Vermont	23,905	741,719	7,258	5,037	106,330	1,413	28,942	848,049	8,671
Massachusetts	29,819	143,414	3,293	53,623	343,812	7,206	83,442	487,226	10,499
Rhode Island	3,500	777	520	25,364	18,109	4,640	28,864	18,886	5,160
Connecticut	15,582	122,100	853	62,597	556,798	8,302	78,179	678,898	9,155
New York	154,330	3,054,665	22,472	73,648	610,565	12,763	227,978	3,665,230	35,235
Pennsylvania	51,581	1,822,395	20,426	22,416	259,587	12,298	73,997	2,081,982	32,724
Total	336,364	7,578,673	69,992	365,474	3,404,946	69,247	701,838	10,983,619	139,239

* Wild and cultivated

TABLE #1A

TABLE #1A
SHEET #1

SUMMARY OF ALL RIBES ERADICATION 1918-1940 (Inclusive)

State a	Total Acreage White Pine b	Acreage Wh. Pine Worth Protection c		Acreage Control Areas (Wh. Pine and Protective Zones) d		Acreage Reported Initially Worked e	Initial Eradication to Date			
							Net Acreage Worked in Control Areas f		Number Man-Hours h	Number 8-Hour Man-Days i
		(1)	(2)	(1)	(2)		(1)	(2)		
Maine	2,608,911	973,746	104,284	2,469,109	303,528	2,319,920	2,092,649	2,495	[illegible]	247,053
New Hampshire	1,544,033	1,448,059	0	3,185,640	0	3,155,559	2,953,200	0	[illegible]	295,820
Vermont	567,054	181,196	4,504	846,335	25,281	458,523	454,421	4,102	[illegible]	113,008
Massachusetts	958,564	722,661	19,524	1,845,113	62,790	2,017,180	1,831,863	54,645	[illegible]	127,756
Rhode Island	90,866	90,866	0	326,389	0	325,837	319,448	0	[illegible]	20,768
Connecticut	216,154	81,975	14,083	367,723	136,014	443,288	350,627	92,661	[illegible]	39,722
New York	1,315,957	862,909	14,412	2,841,116	84,167	2,343,935	2,101,263	27,542	[illegible]	670,647
New Jersey	7,600	3,771	2,700	16,742	18,900	16,742	16,742	0	[illegible]	1,324
Pennsylvania	375,628	168,032	7,842	1,050,690	108,294	553,095	514,659	2,745	[illegible]	305,770
Total	7,684,797	4,533,215	167,349	12,948,857	738,974	11,634,079	10,634,872	184,190	[illegible]	1,821,868

(1) Inside permanent pine production area
(2) Outside permanent " " "

See other side for totals

	Acreage of White Pine North Protection	Acreage Control Areas (White Pine and Protective Zones)	Net Acreage Worked in Control Areas
.....1,078,030		2,772,637	2,095,144
.....1,448,059		3,185,640	2,953,200
.....185,700		871,616	458,523
.....742,185		1,907,903	1,886,508
..... 90,866		326,389	319,445
..... 96,058		503,737	443,288
.....877,321		2,925,283	2,128,805
.....6,471		35,642	16,742
.....175,874		1,158,984	517,404
.....4,700,564		13,687,831	10,819,062

Above data include acreages inside and outside permanent pine production area.

TABLE #1A
SHEET #2

TABLE #1A
SUMMARY OF ALL RIBES ERADICATION 1918-1940 (INCLUSIVE)

State	Reeradication				Totals				Percent Initial Eradi. Worked*		Per Acre			
											Ribes		Man-Days	
	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days	Net Acreage Worked in Control Areas	Number Ribes Destroyed		Number 8-Hour Man-Days			Initial Eradication	Re-eradication	Init. Eradication	Re-eradication
		Wild	Cult			Wild	Cult		(1)	(2)				
a	b	c	d	e	f	g	h	i						
Maine	640,942	11,169,052	14,189	123,469	2,736,086	56,181,958	151,278	370,522	84.8	0.6	19.4	17.4	.11	.19
New Hampshire	843,860	11,216,534	5,934	100,921	3,797,060	67,263,906	155,675	396,741	92.7	-	17.8	13.3	.09	.12
Vermont	140,434	2,619,187	2,164	41,236	598,957	13,744,658	17,168	154,244	53.7	16.2	24.3	18.6	.25	.29
Massachusetts	923,982	5,348,429	21,244	81,215	2,810,490	21,821,460	279,082	205,971	99.3	87.0	7.8	5.8	.05	.09
Rhode Island	296,225	352,099	9,811	51,869	615,673	603,004	23,500	72,637	97.9	-	1.9	1.2	.06	.18
Connecticut	379,479	4,623,338	10,250	90,693	822,767	7,089,741	39,567	130,415	95.4	62.1	5.5	12.2	.09	.24
New York	678,078	8,663,587	12,516	162,605	2,806,883	68,424,603	133,361	833,252	74.0	32.7	23.9	12.8	.29	.24
New Jersey	1,417	16,956	15	392	18,159	64,736	1,728	1,716	100.0	0	2.9	12.0	.08	.28
Pennsylvania	204,054	5,281,813	2,830	147,331	721,458	36,978,940	52,274	453,101	49.0	3.5	37.3	25.9	.55	.72
Total	4,108,471	49,290,995	78,953	799,731	14,927,533	272,173,006	853,653	2,621,599	82.1	24.9	19.8	12.0	.16	.19

* Percentage of total white pine control area in State that has been worked initially.
(1) Inside permanent pine production area
(2) Outside " " " "
{ See other side for percentages of total control area initially worked.

State	Percent Total Control Area Initially Worked
Maine	75.6
New Hampshire	92.7
Vermont	52.6
Massachusetts	93.9
Rhode Island	97.9
Connecticut	88.0
New York	72.8
New Jersey	47.0
Pennsylvania	44.6
All States	79.1

TABLE #2A

TABLE #2A
SHEET #1

SUMMARY OF ALL RIBES ERADICATION BY PROGRAMS 1918-1940 INCLUSIVE
(Initial and Reeradication)

State	Total * Acreage Reported Worked (Initial and Reeradication)	Regular and Cooperative **					W.P.A. ***		
		Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days
			Wild	Cult.			Wild	Cult.	
Maine	2,960,862	1,857,399	21,678,639	120,995	87,673	592,218	19,[illegible]	[illegible]	120,700
New Hampshire	3,999,419	3,258,813	42,703,398	145,491	217,649	541,790	15,[illegible]	[illegible]	103,096
Vermont	593,957	226,787	2,355,229	11,143	29,995	250,933	[illegible]	[illegible]	15,938
Massachusetts	2,941,162	2,263,170	13,963,370	247,940	102,357	495,741	[illegible]	[illegible]	57,264
Rhode Island	622,062	292,433	206,652	12,356	10,539	59,395	[illegible]	[illegible]	3,965
Connecticut	822,767	270,234	2,070,426	22,394	23,955	208,828	[illegible]	[illegible]	10,112
New York	3,022,013	1,277,505	23,053,281	65,460	259,439	900,034	[illegible]	[illegible]	207,651
New Jersey	18,159	-	-	-	-	5,042	[illegible]	[illegible]	1,343
Pennsylvania	757,149	91,465	4,546,194	7,278	17,066	223,455	[illegible]	[illegible]	41,246
Total	15,742,550	9,567,806	110,577,239	633,057	748,673	3,277,446	[illegible]	[illegible]	606,315

* This column = column E, Table 1A, Sheet 1, plus column b Table 1A Sheet 2.
** Includes work performed under A.R.A. Program - see other side of sheet for separate summary.
*** Includes work performed under State W.P.A. and N.Y.A. Programs - see other side for separate [illegible]

State	Acreage Worked	Ribes Destroyed Wild	Ribes Destroyed Cult.	Number 8-Hour Man-Days
R. I.	2,368	6,177	-	465
Conn.	3,143	10,627	112	256
N. Y.	3,659	67,503	64	2,509
Penna.	7,182	41,953	882	1,106
Totals	16,353	126,270	1,058	4,336

RESULTS OF RIBES ERADICATION UNDER STATE W.P.A. PROGRAM
(Included under "W.P.A. and E.R.A." in Table #2A - Sheet #1)

State	Acreage Worked	Ribes Destroyed Wild	Ribes Destroyed Cult	Number 8-Hour Man-Days
Conn.	130,430	686,766	3,516	12,620
N. Y.	135	12,915	-	104
Penna.	2,944	984,434	-	2,304
Totals	133,509	1,684,115	3,516	15,028

RESULTS OF RIBES ERADICATION UNDER N.Y.A. PROGRAM
(Included under "W.P.A. and E.R.A." in Table #2A - Sheet #1)

State	Acreage Worked	Ribes Destroyed Wild	Ribes Destroyed Cult.	Number 8-Hour Man-Days
Penna.	343	4,242	-	84

RESULTS OF RIBES ERADICATION UNDER C.W.A. AND E.R.A. PROGRAMS
(Included under "W.P.A. and E.R.A." in Table #2A - Sheet #1)

State	Acreage Worked	Ribes Destroyed Wild	Ribes Destroyed Cult.	Number 8-Hour Man-Days
Maine	2,549	66,688	-	401
Mass.	2,907	79,133	306	2,528
Conn.	15,116	48,193	1,556	3,110
N. Y.	6,677	138,709	44	1,731
Totals	28,251	332,723	1,906	7,770

TABLE #2A
SHEET #2

TABLE #2A
SUMMARY OF ALL RIBES ERADICATION BY PROGRAMS 1918 - 1940 INCLUSIVE
(Initial and Reeradication)

State	E.C.W. and S.C.S. *				P.W.A. or N.R.A.				Total Emergency Program (W.P.A. - N.C.W. - P.W.A.)			
	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed		Number 8-Hour Man-Days
		Wild	Cult			Wild	Cult			Wild	Cult	
Maine	441,877	12,465,249	11,429	151,723	69,368	2,421,865	1,992	10,426	1,103,463	[illegible]	30,283	232,849
New Hampshire	122,945	7,564,265	458	63,561	45,871	1,367,933	3	6,435	710,606	[illegible]	10,184	179,092
Vermont	94,700	3,423,785	960	43,401	26,537	474,945	-	4,910	372,170	[illegible]	6,025	124,249
Massachusetts	84,490	1,661,690	3,376	33,673	97,761	1,001,221	1,254	5,677	677,992	[illegible]	31,142	106,614
Rhode Island	257,473	255,403	6,774	50,553	12,761	47,112	407	1,580	329,629	[illegible]	11,144	62,098
Connecticut	330,535	3,231,714	9,057	73,656	13,170	309,810	-	2,692	552,533	[illegible]	17,173	106,460
New York	797,641	21,594,196	31,829	363,302	46,833	783,737	5,549	9,860	1,744,508	[illegible]	67,921	573,813
New Jersey	381	19,795	304	247	12,736	6,858	1,110	126	18,159	[illegible]	1,723	1,716
Pennsylvania	424,745	16,033,017	28,747	346,920	17,474	2,594,171	2,361	7,869	665,634	[illegible]	44,996	436,035
Total	2,554,787	66,299,114	92,934	1,127,036	342,511	9,007,652	12,676	49,575	6,174,744	[illegible]	220,595	1,872,926

* See other side of sheet for separate summary of S.C.S. work.

RESULTS OF RIBES ERADICATION UNDER S.C.S. PROGRAM
(Included under "E.C.W. and S.C.S." in Table #2A -Sheet #2)

State	Acreage Worked	Ribes Destroyed Wild	Ribes Destroyed Cult.	Number 8-Hour Man-Days
R. I.	12,814	2,947	-	2,314
N. Y.	9,017	383,850	205	5,294
Penna.	8,740	283,477	155	4,821
Totals	30,571	670,274	360	12,429

TABLE #3A

SUMMARY OF ALL OTHER CONTROL WORK, 1918-1940 (INCLUSIVE)

TABLE #3A
SHEET #1

State	Cultivated Black Currant Eradication					Nursery Sanitation							
						No. of Nurseries		No. Acres Worked					
	Number Inspections Made	Number Locations Found	Number Black Currants Destroyed		Number 8-Hour Man-Days	Sanitation Zone Maintained	Sanitation Zone Abandoned	Nurseries Maintaining Zones	Nurs. Which Abandoned Zones	Total Acreage	[illegible] Ribes Destroyed		Number 8-Hour Man-Days
			Nigrum	Other								Cult.	
Maine	-	-	-	-	-	2	5	409	766	1,735	[illegible]	22	463
New Hampshire	-	-	-	-	-	2	1	749	165	2,762	[illegible]	1	283
Vermont	-	-	-	-	-	1	-	700	-	2,230	[illegible]	75	409
Massachusetts	750,359	6,657	42,629	432	7,347	11	8	8,450	3,300	8,033	[illegible]	294	1,253
Rhode Island	110,137	1,917	16,219	1093	1,929	5	1	2,453	95	17,773	[illegible]	749	430
Connecticut	318,344	32,695	7,464	42397	14,610	5	13	1,768	5,411	60,110	[illegible]	1080	2,692
New York	526,593	5,128	37,064	761	5,250	5	3	7,137	4,070	95,346	[illegible]	1830	6,135
New Jersey	-	-	-	-	-	1	1	600	195	1,665	[illegible]	114	127
Pennsylvania	-	-	-	-	-	9	5	4,136	1,527	24,335	[illegible]	565	4,191
Total	1,705,433	46,397	103,376	44683	29,136	41	37	26,402	15,529	213,979	[illegible]	4740	15,983

(1) Survey in Connecticut included all cultivated Ribes

TABLE #3A

SUMMARY OF ALL OTHER CONTROL WORK, 1918-1940 (INCLUSIVE)

TABLE #3A
SHEET #2

State	Preeradication Survey		Treatment Infected White Pine				
	Number Acres Mapped White Pine and Protection Zones	Number 8-Hour Man-Days	Number Trees Examined	Number Trees Treated	Number Trees Removed	Number Cankers Removed	Number 8-Hour Man-Days
Maine	2,117,757	32,796	155,792	21,596	11,219	50,930	[illegible]931
New Hampshire	1,314,263	34,990	28,581	638	5,731	711	219
Vermont	1,548,047	20,850	208,416	18,841	38,556	22,032	[illegible].226
Massachusetts	806,363	17,460	4,751,450	16,210	30,956	21,348	[illegible],145
Rhode Island	225,660	2,264	-	-	-	-	-
Connecticut	728,888	25,168	-	-	-	-	-
New York	3,899,749*	37,489	1,470,670	187,981	145,758	251,452	[illegible]619
New Jersey	-	-	-	-	-	-	-
Pennsylvania	730,993	42,020	919,478	129,975	32,595	563,850	[illegible]306
Total	11,371,720	213,037	7,534,387	375,241	264,815	915,429	2,452

* Includes considerable acreage of woodland spot mapping.

TABLE #4A
SHEET #1

TABLE #4A
SUMMARY OF ALL EXPENDITURES, 1918-1940 (INCLUSIVE)

State				RECAPITULATION BY PROGRAMS					
				REGULAR	EMERGENCY				
	FEDERAL (ALL AGENCIES INCL. STATE WPA PROJECTS)	STATE (INCL. ALL COOP. FUNDS	GRAND TOTAL	FEDERAL AND STATE COOP.	FED. W.P.A., C.W.A., ERA., N.Y.A. and A.R.A. *	STATE W.P.A.	E.C.W. S.C.S.	[illegible]	TOTAL EMERGENCY PROGRAMS
Maine	1,338,085.14	349,957.37	1,688,042.51	658,739.20	605,318.83	-	354,855.53	69,128.95	1,029,303.31
New Hampshire	1,294,167.96	769,255.44	2,063,423.40	1,252,797.98	592,687.44	-	149,340.77	68,597.21	810,625.42
Vermont	650,562.46	153,775.17	804,337.63	306,011.46	371,268.79	-	94,889.16	32,168.20	498,326.17
Massachusetts	907,885.75	420,594.53	1,328,480.28	789,983.82	422,148.32	-	64,276.85	52,071.89	538,496.46
Rhode Island	220,610.36	67,629.42	288,239.78	114,789.29	45,578.03	-	115,444.46	12,447.99	173,450.49
Connecticut	740,427.84	178,930.65	919,358.49	304,212.15	184,723.20	232,690.84	175,252.90	98,479.39	615,146.34
New York	2,472,823.45	1,448,786.91	3,921,610.36	1,979,227.71	1,084,133.15	324.90	765,590.37	93,334.23	1,942,382.65
New Jersey	20,182.52	16,828.15	37,010.67	26,049.07	7,303.37	-	576.79	3,031.48	10,961.60
Pennsylvania	1,414,686.45	115,607.11	1,530,293.56	182,512.89	429,787.14	9,400.00	863,113.90	315,474.63	1,347,780.67
Total	9,059,431.93	3,521,364.75	12,580,796.68	5,614,323.57	3,742,948.27	242,415.74	2,583,345.14	764,763.95	6,966,473.11

* See other side of sheet for summary of C.W.A., E.R.A., N.Y.A., and A.R.A. expenditures.
(1) Includes $693.32 spent for district leaders' salaries from Cambridge office W.P.A. administrative allotment.
(2) " 758.31 " " " " " " " " " " "
(3) " 1733.28 " " " " " " " " " " "
(4) " 61.11 " " state leader's " " " " " " "
(5) " 108.33 " " district leader's " " " " " "

SUMMARY OF EXPENDITURES FROM C.W.A., E.R.A., N.Y.A., AND A.R.A. FUNDS, 1918-1940 (INCLUSIVE)
(Included with W.P.A. on front side of sheet)

State	C.W.A.	E.R.A.	N.Y.A.	A.R.A.
Maine.....	-	$1,426.80	-	-
Mass.....	$31,134.03	10,998.20	-	-
R. I.....	-	-	-	1,640.00
Conn.....	5,938.10	94,478.40	-	1,152.71
N. Y.....	-	2,779.70	-	8,010.58
Penna.....	-	-	220.80	4,254.65
Totals.....	$37,072.13	$109,683.10	220.80	15,057.94

TABLE #4A
SHEET #2

TABLE #4A
SUMMARY OF ALL EXPENDITURES, 1918-1940 (INCLUSIVE)

State	RECAPITULATION BY ACTIVITIES (FEDERAL AND STATE)						
	SUPERVISION (INCL. STATE & DIST. LEADERS)	RIBES ERADICATION	C.B.C. ERADICATION	NURSERY SANITATION	CANKER ELIMINATION	PRE-ERADICATION SURVEY	ALL OTHER (CHECKING, FIELD DATA & MISC.)
Maine	378,906.40	1,008,486.06	-	1,524.66	6,488.43	145,851.[illegible]	147,385.02
New Hampshire	550,388.40	1,205,481.99	-	968.45	779.37	149,708.[illegible]	156,102.66
Vermont	210,858.48	436,785.15	-	1,284.18	7,110.43	80,236.[illegible]	68,042.93
Massachusetts	401,238.55	685,915.04	32,029.71	5,598.15	35,391.66	78,854.[illegible]	89,453.05
Rhode Island	64,766.77	161,395.97	10,327.88	1,928.10	-	13,948.[illegible]	35,872.91
Connecticut	153,326.73	350,055.96	75,299.46	9,067.16	-	127,850.[illegible]	205,918.92
New York	621,266.95	2,347,123.30	27,761.12	21,282.70	47,297.28	175,874.[illegible]	681,004.47
New Jersey	22,897.12	6,915.69	-	461.54	-		6,736.32
Pennsylvania	162,472.72	974,527.60	-	10,068.41	19,163.00	161,591.[illegible]	202,464.81
Total	2,566,122.12	7,176,686.76	145,418.17	52,183.35	116,230.17	933,175.[illegible]	1,590,931.09

TABLE #4B

STATUS OF BLISTER RUST CONTROL 1918 - 1940 (INCLUSIVE)

TABLE #4B
SHEET #1

State	Control Area Including Border Zones (Acres) (1)	Control Area Including Border Zones (Acres) (2)	Net Control Area Initially Protected (Acres) (1)	Net Control Area Initially Protected (Acres) (2)	Control Areas Reworked Subsequent to Initial Protection (Acres)	No. 8-Hour Man-Days (Man-Days)	Ribes Destroyed (Wild & Cultivated) (Number)	Remaining Control Areas Needing Initial Protection (Acres) (1)	Remaining Control Areas Needing Initial Protection (Acres) (2)	Estimated Protected Area now on Maintenance Basis* Acres
Maine	2,169,109	303,528	2,092,649	2,495	640,942	370,522	56,333,236	376,460	3,033	
New Hampshire	3,185,640	0	2,953,200	0	843,860	396,741	67,419,581	232,440	-	
Vermont	846,335	25,281	454,421	4,102	140,434	154,244	13,761,826	391,914	21,179	
Massachusetts	1,845,113	62,790	1,831,863	54,645	923,982	208,971	22,100,542	13,250	7,145	
Rhode Island	326,389	0	319,448	0	296,225	72,637	626,504	6,941	-	No Record
Connecticut	367,723	136,014	350,627	92,661	379,479	130,415	7,129,308	17,096	43,387	
New York	2,841,116	84,167	2,101,263	27,542	678,078	833,252	68,557,984	739,853	56,625	
New Jersey	16,742	18,900	16,742	0	1,417	1,716	66,464	0	18,900	
Pennsylvania	1,050,690	108,294	514,659	2,745	204,054	453,101	37,031,214	536,031	105,549	
Total	12,946,857	738,974	10,634,872	184,190	4,108,471	2,621,599	273,026,659	2,313,985	257,784	

* Maintenance - Any portion of a control area that has through artificial (eradication of Ribes) or natural treatment (killing of Ribes) acquired a status wherein the scarcity of Ribes assures effective blister rust control for an indefinite period, even though no further work (except perhaps scouting) is expected to be needed during the current forest cycle. This status continues for a varying number of years until, after a major ecological change, a renewed increase and growth of Ribes again endangers the pine, and such areas then revert to a rework status.

(1) Inside permanent pine production area
(2) Outside " " " " } See other side for totals

	Total Control Areas Including Border Zones	Net Control Area Initially Protected	Remaining Control Area Needing Initial Protection
	2,772,637	2,095,144	677,493
	3,185,640	2,953,200	232,440
	871,616	458,523	413,093
	1,907,903	1,886,508	21,395
	326,389	319,448	6,941
	503,737	443,288	60,449
	2,925,283	2,128,805	796,478
	35,642	16,742	18,900
	1,158,984	517,404	641,580
	13,687,831	10,819,062	2,868,769

TABLE #5A
SHEET #1

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIPS 1918-1940 INCLUSIVE

Land Ownership a	Total Acreage of White Pine worth protection b	CONTROL AREAS		INITIAL ERADICATION		
		Total Acreage * (Wp. + prot. zones) c	Acreage not yet worked initially d	Net Acreage Worked e	Number Ribes Destroyed ** f	Number 8-Hour Man-Days g
National forests	2,715	14,473	1,586	12,887	1,575,764	5,118
O & C Revested lands	-	-	-	-	-	-
Other public domain	-	-	-	-	-	-
National parks	3,638	20,716	48	20,668	893,430	11,218
Indian Reservations	-	-	-	-	-	-
Subtotal (Federal)	6,353	35,189	1,634	33,555	2,469,194	16,336
State & private	4,694,211	13,652,642	2,867,135	10,785,507	221,187,517	1,805,532
Grand Totals	4,700,564	13,687,831	2,868,769	10,819,062	223,656,711	1,821,868

* Column d + column e equals column c the total of column e of this table should agree with the total of column f of Table 1A.

** Wild and cultivated

TABLE #5A

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIPS - 1918-1940 Inclusive

TABLE #5A
SHEET #2

Land Ownership	Re-eradication Work			Totals (Initial & Re-)		
	Acreage Worked	Number Ribes Destroyed (Wild and Cult.)	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed (Wild and Cult.)	Number 8-Hour Man-Days
National forests	10,130	385,139	2,457	23,017	1,960,9[illegible]	7,575
O & C Revested lands	-	-	-	-	-	-
Other public domain	-	-	-	-	-	-
National parks	3,407	35,191	3,562	30,075	928,6[illegible]	14,780
Indian Reservations	-	-	-	-	-	-
Subtotal (Federal)	19,537	420,330	6,019	53,092	2,889,6[illegible]	22,355
State & private	4,088,934	48,949,618	793,712	14,874,441	270,137,[illegible]	2,599,244
Grant Totals	4,108,471	49,369,948	799,731	14,927,533	273,026,6[illegible]	2,621,599

TABLE #5A

SUMMARY OF RIBES ERADICATION ON NATIONAL PARKS 1918-1940 (INCLUSIVE)

TABLE #5A
SHEET #3

National Parks (list separately) a	Total acreage of White Pine b	CONTROL AREAS		INITIAL ERADICATION WORK		
		Total Acreage * (Wp. + prot. zones) c	Acreage not yet worked initially d	Acreage Worked e	Number Ribes Destroyed f	Number 8-Hour Man-Days g
Acadia National Pk.Me.	3,638	20,716	48	20,668	893,430 **	11,218
Total National Parks	3,638	20,716	48	20,668	893,430	11,218

** Includes 293 cultivated Ribes

* Column d + column e = column c.

TABLE #5A

SUMMARY OF RIBES ERADICATION ON NATIONAL PARKS 1918-1940 (INCLUSIVE)

TABLE #5A
SHEET #4

National Parks (List separately)	Reeradication Work			TOTALS (Initial and Rework)		
	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days
Acadia Natl. Park, Maine.	9,407	35,191	3,562	30,075	925,621 *	14,780
		* Includes 293 cultivated Ribes				
TOTALS NAT. PARKS	9,407	35,191	3,562	30,075	925,621	14,780

TABLE #5A

SUMMARY OF RIBES ERADICATION ON INDIAN RESERVATIONS 1918-1940 (INCLUSIVE)

TABLE #5A
SHEET #5

Indian Reservations (List separately) a	Total Acreage of White Pine b	CONTROL AREAS		INITIAL ERADICATION WORK		
		Total Acreage (W.p. & prot. Zones) c	Acreage not yet worked initially d	Acreage Worked e	Number Ribes Destroyed	Number 8-Hour Man-Days f
(No work performed on Indian Reservations in this Region)						
TOTALS						

* Column d and column e = Column c

TABLE #5A

SUMMARY OF RIBES ERADICATION ON INDIAN RESERVATIONS 1918 - 1940 (INCLUSIVE)

TABLE #5A
SHEET #6

Indian Reservations (List separately)	REERADICATION WORK			TOTALS (Initial & Reruns)		
	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days
(No work performed on Indian Reservations in this Region)						
TOTALS						

TABLE #5A

SUMMARY OF RIBES ERADICATION ON NATIONAL FORESTS 1918-1940 (INCLUSIVE)

TABLE #5A
SHEET #6B

National Forests (List separately)	Re-Eradication Work			Total (Initial and Re-work)		
	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-Days
White Mountain National Forest, Me. and N. H.	8,978	324,078	1,916	17,707	1,140,457 (1)	4,795
Allegheny National Forest, Penna.	1,152	61,061	541	5,310	280,852 (2)	2,740
Totals - Nat. Forests	10,130	385,139	2,457	23,017	1,421,309	7,535

(1) Includes 85 cultivated bushes.
(2) Includes 30 cultivated bushes.

TABLE #5A
SHEET #7

TABLE #5A

SUMMARY OF RIBES ERADICATION ON STATE AND PRIVATE LANDS 1918-1940 (INCLUSIVE)

(Data Include Acreages Both Inside and Outside Permanent Pine Production Area)

State & private lands (List by States) a	Total Acreage of White Pine b	CONTROL AREAS		INITIAL ERADICATION WORK		
		Total Acreage* (W.P. & Prot Zones) c	Acreage not yet worked initially d	Acreage worked (net) e	No. Ribes destroyed (wild and cult.) f	No. 8-Hour Man-Days g
Maine	1,074,392	2,751,921	677,445	2,074,476	44,256,585	235,835
New Hampshire	1,446,516	3,176,911	232,440	2,944,471	55,380,754	292,943
Vermont	185,700	871,616	413,093	458,523	11,140,475	113,008
Massachusetts	742,185	1,907,903	21,395	1,886,508	16,730,869	127,756
Rhode Island	90,866	326,389	6,941	319,448	264,594	20,768
Connecticut	96,058	503,737	60,449	443,288	2,495,720	39,722
New York	877,321	2,925,283	796,478	2,128,805	59,881,881	670,647
New Jersey	6,471	35,642	18,900	16,742	49,493	1,324
Pennsylvania	174,702	1,153,240	639,994	513,246	30,987,166	303,531
TOTAL	4,694,211	13,652,642	2,867,135	10,785,507	221,187,517	1,805,532

* Column c - Column d and column e.

TABLE #5A

SUMMARY OF RIBES ERADICATION ON STATE AND PRIVATE LANDS 1918-1940 INCLUSIVE

TABLE #5A
SHEET #8

State & Private Lands (List by States)	RE-ERADICATION WORK			TOTALS (INITIAL & [illegible])		
	Acreage Worked	No. Ribes Destroyed (Wild and Cult)	No. 8-Hour Man-Days	Acreage Worked	No. Ribes Destroyed (Wild and [illegible])	No. 8-Hour Man-Days
Maine	631,450	11,144,296	119,860	2,705,926	55,400,861	355,695
New Hampshire	834,967	10,902,144	99,052	3,779,438	66,282,89[illegible]	391,993
Vermont	140,434	2,621,351	41,236	598,957	13,761,82[illegible]	154,244
Massachusetts	923,982	5,369,673	81,215	2,810,490	22,100,5[illegible]2	208,971
Rhode Island	296,225	361,910	51,869	615,673	626,50[illegible]	72,637
Connecticut	379,479	4,633,558	90,693	822,767	7,129,30[illegible]	130,415
New York	678,078	8,676,103	162,605	2,806,883	68,557,90[illegible]	833,252
New Jersey	1,417	16,971	392	18,159	66,46[illegible]	1,716
Pennsylvania	202,902	5,223,582	146,790	716,148	36,210,7[illegible]	450,321
TOTAL	4,088,934	48,949,618	793,712	14,874,441	270,137,13[illegible]	2,599,244

ANNUAL REPORT

ON

WHITE PINE BLISTER RUST CONTROL

SOUTHERN APPALACHIAN DISTRICT

1940

By
Roy G. Pierce

Pathologist-in-Charge

Division of Plant Disease Control

May 27, 1941

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Pruning of white pine on the George Washington National Forest opens up the stand and may result in Ribes regrowth, Augusta County, Virginia.
Virginia - 189 Photo by J. G. Luce

OMNIBUS TABLES

TABLE 1

SUMMARY OF 1940 RIBES ERADICATION

STATE	Initial Eradication Work			
	Acreage Worked	Number Ribes Destroyed		No. 8 hr man-days
		Wild	Cultivated	
Delaware	245	18	1,656	122
Georgia	157,046	15,332	17,602	1,250
Maryland	2,585	84,485	143	767
North Carolina	21,052	165,280	1,948	1,418
Tennessee	207,887	258,614	15,167	2,648
Virginia	79,380	436,521	976	3,497
West Virginia	95,441	1,175,692	4,628	6,801
Totals	563,636	2,135,942	42,120	16,503

STATE	Reeradication Work			
	Acreage Worked	Number of Ribes Destroyed		No. 8 hr. man-days
		Wild	Cultivated	
Delaware	-	-	115	15
Georgia	-	-	-	-
Maryland	5,066	177,362	62	1,595
North Carolina	47,622	165,030	4,100	3,652
Tennessee	2,948	16,663	-	251
Virginia	24,102	358,410	955	5,120
West Virginia	12,447	206,145	81	1,527
Totals	92,185	923,610	5,313	12,160

STATE	Totals				
	Acreage Worked	Number of Ribes Destroyed		No. 8 hour man-days	Percent Initial Eradication Worked
		Wild	Cultivated		
Delaware	245	18	1,771	137	5.7
Georgia	157,046	15,332	17,602	1,250	17.1
Maryland	7,651	261,847	205	2,362	1.47
North Carolina	68,674	330,310	6,048	5,070	1.32
Tennessee	2[illegible],835	275,277	15,167	2,899	23.77
Virginia	103,482	794,931	1,931	8,617	10.96
West Virginia	107,888	1381,837	4,709	8,328	12.89
Totals	655,821	3059,552	47,433	28,663	11.22

TABLE 1 (continued)
SUMMARY OF 1940 RIBES ERADICATION

STATE	Ribes per Acre		Man-Days Per Acre	
	Initial Eradication	Reeradication	Initial Erad.	Reeradication
Delaware	6.7	-	0.5	-
Georgia	.21	-	0.008	-
Maryland	32.7	35.0	0.29	0.31
North Carolina	7.94	3.55	.067	.076
Tennessee	1.31	5.65	.0127	.0851
Virginia	5.5	14.9	0.044	0.21
West Virginia	12.37	16.57	0.071	.123
Totals	3.86	10.1	0.029	0.132

STATE	Number of Camps			
	C. C. C.	W. P. A.	Regular	Total
Maryland	4	-	-	4
North Carolina	1	-	-	1
Tennessee	1	-	-	1
Virginia	7	-	-	7
West Virginia	1	-	-	1
Totals	14	-	-	14

STATE	Number of Employees					
	C. C. C.	W. P. A.	Regular	Total	All Supervision	Employees
Delaware	-	2	(1) 1	2	-	2
Georgia	-	53	-	53	2	55
Maryland	76	27	11	114	5(2)	119
North Carolina	47	217(3)	6	270	4	274
Tennessee	15	69	-	84	4	88
Virginia	87	103	1	191	11	202
West Virginia	25	78	-	103(4)	4	107
Totals	250	549	19	817 (1)	30	847

(1) One man was on WPA, then later on Regular.
(2) Includes only CCC foreman, or foresters and agent on Regular and WPA funds.
(3) Includes one NYA worker
(4) In West Virginia there were actually only 85 persons at the peak of the season but peak for CCC and WPA did not coincide.

TABLE 2

SUMMARY OF 1940 RIBES ERADICATION BY PROGRAMS

(Including all work - Initial and Reeradication)

STATE	Total Acreage Worked (Initial and Reeradication)	Regular and Cooperative Acreage Worked	No. Ribes Destroyed Wild	No. Ribes Destroyed Culti.	No. 8 hour man-days
Delaware	245	-	-	167	12
Georgia	157,046	-	-	-	-
Maryland	7,651	380	911	-	13
North Carolina	68,674	794	-	126	31
Tennessee	210,835	-	-	-	-
Virginia	103,482	-	-	-	-
West Virginia	107,888	-	-	-	-
Totals	655,821	1,174	911	293	56

STATE	W. P. A. and E. R. A. Acreage worked	Number Ribes Destroyed Wild	Number Ribes Destroyed Cultivated	No. 8 hour man-days
Delaware	245	18	1,604	125
Georgia	157,046	15,332	17,602	1,250
Maryland	3,193	146,001	199	1,234
North Carolina	67,752	299,507	5,922	4,573
Tennessee	194,215	274,977	15,067	2,511
Virginia	101,539	739,210	1,931	7,587
West Virginia	97,944	1,334,795	4,631	7,171
Totals	621,934	2,809,840	46,956	24,451

STATE	E. C. W. and S. C. S. Acreage Worked	Number Ribes Destroyed Wild	Number Ribes Destroyed Cultivated	No. 8 hour man-days
Delaware	-	-	-	-
Georgia	-	-	-	-
Maryland	4,078	114,935	6	1,115
North Carolina	128	30,803	-	466
Tennessee	16,620	300	100	388
Virginia	1,943	55,721	-	1,030
West Virginia	9,944	47,042	78	1,157
Totals	32,713	248,801	184	4,156

STATE	Totals Acreage Worked	Number Ribes Destroyed Wild	Number Ribes Destroyed Cultivated	Number 8 hour man-days
Delaware	245	18	1,771	137
Georgia	157,046	15,332	17,602	1,250
Maryland	7,651	261,847	205	2,362
North Carolina	68,674	330,310	6,048	5,070
Tennessee	210,835	275,277	15,167	2,899
Virginia	103,482	794,931	1,931	8,617
West Virginia	107,888	1381,837	4,709	8,328
Totals	655,821	3059,552	47,433	28,663

TABLE 2 (continued)

SUMMARY OF 1940 RIBES ERADICATION BY PROGRAMS
(Including all work - Initial and Reeradication)

State	Total Emergency Programs			
	Acreage Worked	No. Ribes Destroyed		No. 8 hour man-days
		Wild	Cultivated	
Delaware	245	18	1,604	125
Georgia	157,046	15,332	17,602	1,250
Maryland	7,271	260,936	205	2,349
North Carolina	67,880	330,310	5,922	5,039
Tennessee	210,835	275,277	15,167	2,899
Virginia	103,482	794,931	1,931	8,617
West Virginia	107,888	1,381,837	4,709	8,328
Totals	654,647	3,058,641	47,140	28,607

Breakdown of WPA Ribes Eradication in 1940 into Federal WPA and State WPA

State	Acreage Worked	Number Ribes Destroyed		No. 8 hour man-days	Cost
		Wild	Cultivated		
Delaware	245	18	1,604	125	$1,015.46
Georgia	157,046	15,332	17,602	1,250	3,687.50
Maryland	3,193	146,001	199	1,234	3,829.53
North Carolina	20,700	138,378	1,974	1,108	2,932.79
Tennessee	81,833	274,977	15,067	1,599	4,764.93
Virginia	29,112	117,532	113	1,804	6,263.65
West Virginia	32,072	882,034	2,075	3,317	11,405.72
Totals	324,201	1,574,272	38,634	10,437	33,899.58

State	Acreage Worked	No. of Ribes Destroyed			Cost
		Wild	Cultivated	Total	
Georgia	-	-	-	-	-
Maryland	-	-	-	-	-
North Carolina	47,052	161,129	3,948	3,465	$8,034.81
Tennessee	112,382	-	-	912	2,228.64
Virginia	72,427	621,678	1,818	5,783	16,670.89
West Virginia	65,872	452,761	2,556	3,854	11,757.31
Totals	297,733	1,235,568	8,322	14,014	$38,691.65

Table 3

SUMMARY OF ALL OTHER CONTROL WORK FOR 1940

STATES	Cultivated Black Currant Eradication	Nursery Sanitation					
		Number nurseries worked	Number White Pines in Nurs.	Number Acres Worked	Number Ribes Destroyed Wild	Culti.	No. 8 hour man-days
Delaware	None in '40	2	52,352	700	-	5	Supervisor
Georgia	" " "	-	-	-	-	-	-
Maryland	" " "	6	275,864	3,320	-	9	Supervision
North Carolina	" "	3	5,025	460	41	-	10
Tennessee	" " "	-					
Virginia	" " "	4	226,196	850	25	22	Supervision
West Virginia	" "	1	21,000	633	401	6	35
Totals		16	580,437	5,963	467	42	45

STATES	Preeradication Survey		Treatment Infected Trees				
	No. Acres mapped W. P. and P. Zones	No. 8 hour man-days	Number Trees Examined	Treated	Removed	No. Cankers Removed	No. 8 hour man-days
Delaware	245	39	-	-	-	-	-
Georgia	157,046	2,940	-	-	-	-	-
Maryland	160	159(1)	-	-	-	-	-
North Carolina	67,091	4,632	-	-	-	-	-
Tennessee	82 071	6,879	-	-	-	-	-
Virginia	55,203	4.144	163,256	3,668	267	11,363	476
West Virginia	65,359	1,644					
Totals	427,175	20,437	163,256	3,668	267	11,363	476

(1) Most of the time was spent in repainting old lines and revising old maps

STATES	CHECKING					
	Advance		Post		Regular	
	Acreage Worked	No. 8 hour man-days	Acreage Worked	No. 8 hour man-days	Acreage Worked	No. 8 hour man-days
Delaware	-	-	-	-	-	-
Georgia	1163	34	324	6	247	10
Maryland	28	9	47	14	175	44
North Carolina	388	(1)	-	-	721	296
Tennessee	2043	454	-	-	98	40
Virginia	1615	58	19	5	452	136
West Virginia	1731	773	-	-	655	132
Totals	6968	1,378	390	25	4,518	784

(1) Man-days charged to ribes eradication.

TABLE 4

SUMMARY OF EXPENDITURES FOR 1940

State	Total Federal (All Agencies incl. "State WPA projects")	State (Inc. all Coop. Funds)	GRAND TOTAL
Delaware	1,164.18	235.60	1,399.78
Georgia	16,813.98	1,690.40	18,504.38
Maryland	11,568.79	1,594.30(1)	13,163.09
North Carolina	43,241.26	6,459.06	49,700.32
Tennessee	33,373.18	2,089.42	35,462.60
Virginia	69,856.50(2)	1,714.10	71,570.60
West Virginia	41,369.49	1,072.54	42,442.03
Totals	217,387.38	14,855.42	232,242.80

(1) In Maryland $20.30 value of cultivated bushes destroyed was included
(2) This includes expenses of the District office, amounting to $18,337.04 and expenses in Virginia outside of Richmond of $1519.46.

State	Recapitulation of Federal Funds					
	Regular Funds		Emergency Funds			
	Bur. Ent. and P. Q.	Forest Service	Federal W. P. A. & N. Y. A.	State WPA	E. C. W. and S. C. S.	Total Emergency Funds
Dela.	86.68		1,077.50	-	-	1,077.50
Ga.	676.18		16,137.80	-	-	16,137.80
Md.	1,490.48		8,405.81	-	1,672.50	10,078.31
N. C.	740.68		13,307.37	28,239.87	653.14	42,500.38
Tenn.	1,160.76		16,412.59	14,176.05	1,923.79	32,212.43
Va.	11,704.25		23,687.05	32,459.72	2,005.50	58,152.27
W. Va.	666.91	144.40	16,543.00(3)	18,711.00	5,304.18	40,558.18
Totals	16,526.11	144.40	95,571.12	93,586.64	11,559.11	200,716.87

(3) Includes $35.51 from 201088 - Administrative

State	Recapitulation By Activities (Federal and State)					
	Supn. Incl. State and District Leaders	Ribes Eradication	Nursery Sanitation	Canker Elimination	Preeradication Survey	All Other (Checking Field Data and Misc.)
Dela.	206.03	1,078.09	-	-	8.49	107.17
Ga.	2,522.82	3,687.50	120.00	-	8,666.90	3,507.16
Md.	5,659.87	5,566.83	-	-	555.22	1,381.17
N. C.	19,218.55	11,794.88	20.79	-	11,384.57	7,281.55
Tenn.	8,677.88	7,895.41	-		18,157.88	731.48
Va.	30,466.44(4)	24,829.04	109.00	1,151.23	9,783.36	5,141.63
W. Va.	9,611.51	27,367.61	244.40	-	5,098.08	120.43
Totals	76,363.10	82,219.36	534.19	1,151.23	53,654.50	18,270.42

(4) Includes $18,337.04 expended by District office at Richmond

TABLE 6

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP 1940

(Sheets 1 and 2)

Land Ownership	Initial Eradication		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
National forests	163,671	680,397	5,242
Resettlement Lands	2,200	84,319	764
U. S. Army Engineers*	62	-	-
National parks	24,712	72,244	915
Indian Reservations	-	-	-
Subtotal (Federal)	190,645	836,960	6,921
State and private	372,991	1,341,102	9,582
Grand Total	563,636	2,178,062	16,503

Land Ownership	Re-eradication		
	Acres	Ribes	Man-Days
National forests	21,345	153,713	3,068
Resettlement lands	830	108,219	468
U. S. Army Engineers	-	-	-
National parks	6,081	183,742	2,586
Indian Reservations	-	-	-
Subtotal Federal	28,256	445,674	6,122
State and private	63,929	483,249	6,038
Grand Total	92,185	928,923	12,160

Land Ownership	Totals		
	Acres	Ribes	Man-Days
National forests	185,016	834,110	8,310
Resettlement Lands	3,030	192,538	1,232
U. S. Army Engineers	62	-	-
National parks	30,793	255 986	3,501
Indian Reservations	-	-	-
Subtotal(Federal)	218,901	1,282,634	13,043
State and private	436,920	1,824,351	15,620
Grand Total	655,821	3,106,985	28,663

*U. S. Army Engineers in Delaware and Resettlement lands in Maryland

NATIONAL PARKS (by States)	INITIAL WORK		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
N. C. Great Smoky Mts.	962	28,906	330
Tenn. " " "	22,870	-	63
Subtotal Great Smoky Mts.	23,832	28,906	393
Va. Shenandoah	860	43,338	522
Total	24,712	72,244	915

NATIONAL PARKS	REERADICATION WORK			TOTALS		
	Acreage Worked	No. Ribes Destroyed	No. 8 hr. man-days	Acreage worked	No. Ribes Destroyed	No. 8 hr. man-days
N.C. Great Smoky Mts.	49	1,897	147	1,011	30,803	477
Tenn. " " "	-	-	-	22,870	-	63
Subtotal	49	1,897	147	23,881	30,803	540
Shenandoah(Va.)	6,032	181,845	2,439	6,912	225,183	2,961
Total Nat'l Parks	6,081	183,742	2,586	30,793	255,986	3,501

TABLE 5

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP 1940

INDIAN RESERVATIONS

(Sheets 3 and 4)

INDIAN RESERVATIONS	INITIAL WORK			REERADICATION WORK		
	Acreage Worked	No. Ribes destroyed	No. 8 hour man-days	Acreage Worked	No. Ribes destroyed	No. 8 hour man-days
	O T H E R F E D E R A L L A N D S					
Dela. U. S. Army Engineers	62	-	-	-	-	-
Md. Resettlement Lands	2,200	84,319	764	830	108,219	468
Totals	2,262	84,319	764	830	108,219	468

INDIAN RESERVATIONS	TOTALS		
	Acreage worked	Number Ribes destroyed	No. 8 hour man-days
Dela. U. S. Army Engineers	62	-	-
Md. Redettlement Lands	3,030	192,538	1,232
Totals	3,092	192,538	1,232

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP 1940

(State and Private lands)

State and Private (By States)	Initial Work		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Delaware	183	1,674	122
Georgia	109,103	25,502	834
Maryland	385	309	8
North Carolina	11,476	121,623	907
Tennessee	127,535	182,837	1,467
Virginia	42,805	77,807	979
West Virginia	81,504	931,350	5,270
Totals	372,991	1,341,102	9,582

State and Private Lands	Reeradication Work		
	Acreage Worked	No. Ribes destroyed	No. 8 hour man-days
Delaware	-	115	15
Georgia	-	-	-
Maryland	4,236	69,205	1,127
North Carolina	43,398	140,846	2,177
Tennessee	1,828	16,663	224
Virginia	6,080	58,877	1,075
West Virginia	8,387	197,543	1,420
Total	63,929	483,249	6,038

State and Private Lands	TOTALS		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Delaware	183	1,789	137
Georgia	109,103	25,502	834
Maryland	4,621	69,514	1,130
North Carolina	54,874	262,469	3,084
Tennessee	129,363	199,500	1,691
Virginia	48,885	136,684	2,054
West Virginia	89,891	1,128,893	6,690
Totals	436,920	1,824,351	15,620

TABLE 5 (Sheet 5)
SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP - 1940
NATIONAL FORESTS

National Forest (By States)	INITIAL WORK Acreage Worked	Number Ribes Destroyed	No. 8 hour man-days
Ga. Chattahoochee	47,943	7,432	416
N. C. Nantahala	-	-	-
N. C. Pisgah	8,614	16,699	181
Tenn. Cherokee	57,482	90,944	1,118
Va. George Washington	35,695	316,352	1,996
" Jefferson	-	-	-
W. Va. George Washington	13,937	248,970	1,631
" Monongahela	-	-	-
Totals	163,671	680,397	5,242

National Forest (By States)	REERADICATION WORK Acreage Worked	Number Ribes Destroyed	No. 8 hour man-days
Ga. Chattahoochee	-	-	-
N. C. Nantahala	-	-	-
" Pisgah	4,175	26,387	1,328
Tenn. Cherokee	1,120	-	27
Va. George Washington	11,825	115,832	1,576
" Jefferson	165	2,811	30
W. Va. George Washington	4,060	8,683	107
Totals	21,345	153,713	3,068

National Forest (By States)	TOTALS Acreage Worked	Number Ribes Destroyed	No. 8 hour man-days
Ga. Chattahoochee	47,943	7,432	416
N. C. Nantahala	-	-	-
" Pisgah	12,789	43,086	1,509
Tenn. Cherokee	58,602	90,944	1,145
Va. George Washington	47,520	432,184	3,572
" Jefferson	165	2,811	30
W. Va. George Washington	17,997	257,653	1,638
" Monongahela	-	-	-
Totals	185,016	834,110	8,310

BLISTER RUST CONTROL WORK PERFORMED ON NATIONAL FOREST LANDS

Table 5 (sheet 6)

SOUTHERN APPALACHIAN REGIONA NATIONAL FORESTS	Calendar Year	Acres Eradicated of Ribes By: FOREST SERVICE First Working	Second Working	Additional Rework	Totals
1 Chattahoochee	1940	-	-	-	-
2 Cherokee	"	16,620	-	-	16,620
3 Cumberland	"	-	-	-	-
4 George Washington, Va.	"	297	-	-	-
4 " " W.Va.	"	-	-	-	-
Subtotals GWNF	"	297	-	-	297
5 Jefferson	"	-	-	-	-
6 Monongahela	"	-	-	-	-
7 Nantahala	"	-	-	-	-
8 Pisgah	"	-	-	-	-
9 Sumter	"	-	-	-	-
Total 1940		16,917	-	-	16,917
Nat'l Forests	1932-1938	143,659	39,219	-	182,878
Nat'l Forests	1932-1939	143,659	39,219	-	182,878
Nat'l Forests	1940	16,917	-	-	16,917
Nat'l Forests	1932-1940	160,576	39,219	-	199,795

National Forests	Calendar Year	Acres Eradicated of Ribes By: BUREAU First Working	Second Working	Additional Rework	Totals
1 Chattahoochee	1940	47,943	-	-	47,943
2 Cherokee	"	40,862	1,120	-	41,982
3 Cumberland	"	-	-	-	-
4 George Washington, Va.	"	35,398	10,415	1,410	47,223
4 " " W.Va.	"	13,937	4,060	-	17,997
Subtotals GWNF	"	49,335	14,475	1,410	65,220
5 Jefferson	"	-	165	-	165
6 Monongahela	"	-	-	-	-
7 Nanathala	"	8,614	4,175	-	12,789
8 Pisgah	"	-	-	-	-
9 Sumter	"	-	-	-	-
Totals for 1940		146,754	19,935	1,410	168,099
Nat'l Forests	1932-1938	731,390	89,034	6,082	806,506
Adjusted figures for	1939	99,568	46,208	-	145,776
National Forests	1932-1939	810,958	135,242	6,082	952,282
National Forests	1940	146,754	19,935	1,410	168,099
National Forests	1932-1940	957,712	155,177	7,492	1,120,381

BLISTER RUST CONTROL WORK PERFORMED ON NATIONAL FOREST LANDS - SOUTHERN APPALACHIAN STATES
(Table 5 - Sheet 7)

National Forests	Acreage Nat'l Forest Land in Control Area	Calendar Year	Total Acreage Eradicated by Both Agencies: First Working	Second Working	Additional Rework	Totals	Total Acreage according to present ownership	Unworked acreage
1 Chattahoochee	455,000	1940	47,943		-	47,943	47,943	
2 Cherokee	225,716	"	57,482	1,120	-	58,602	57,482	
3 Cumberland	30,565	"	-	-	-	-	-	
Va. 4 George Washington	118,554	"	35,695	10,415	1,410	47,520	35,695	
W.Va. 4 " "	50,000	"	13,937	4,060	-	17,997	13,937	
Subtotals G.W.N.F.	168,000	"	49,632	14,475	1,410	-	49,632	
5 Jefferson	40,000	"	-	165	-	165	-	
6 Monongahela	80,000	"	-	-	-	-	-	
7 Nantahala	55,103	"	-	-	-	-	-	
8 Pisgah	131,197	"	8,614	4,175	-	12,789	8,614	
9 Sumter	3,700	"	-	-	-	-	-	
Total 1940	1,189,835	1940	163,671	19,935	1,410	185,016	163,671	
Nat'l Forests - Adjusted figures for		1932-1938	855,049	128,253	6,082	989,384	855,049	
		1939	99,568	46,208	-	145,776	99,568	
Nat'l Forests	1,044,265	1932-1939	954,617	174,461	6,082	1,135,160	954,617	89,648
National Forests		1940	163,671	19,935	1,410	185,016	163,671	
National Forests -		1932-1940	1,118,288	194,396	7,492	1,320,176	1,118,288	77,547

TABLE IA

SUMMARY OF ALL RIBES ERADICATION (1918-1940 Inclusive)

STATE	Total Acreage White Pine	Acreage White Pine Worth Protection	Acreage Control Areas (Wh. Pine and Protective Zones)	Acreage Reported Initially worked
a	b	c	d	e
Delaware	194(1)	194(1)	4,267(2)	4,267
Dist. of Col.	25	25	1,875	1,875
Georgia	475,000(1)	470,000(1)	915,846(2)	825,232
Kentucky	62,147	62,147	80,565(3)	80,565(3)
Maryland	83,456(1)	75,721	175,038(4)	175,038
North Carolina	668,723(5)	668,723(5)	1,586,807(5)	1,586,807(6)
South Carolina	15,137	15,137	29,635	29,635
Tennessee	527,200(1)	527,200(1)	874,500	836,998
Virginia	256,779	256,769	723,658(2)	682,720
West Virginia	300,000(7)	275,000(7)	740,000(7)	648,646(8)
Total	2,388,661	2,350,916	5,132,191	4,871,783

(1) In Delaware, Georgia, Maryland and Tennessee, pine acreage figures were increased, because former figures were too low, as determined by acreage worked.

(2) In Delaware, Georgia, Tennessee and Virginia control acreage was raised because acreage initially worked exceeded former estimated acreage.

(3) In Kentucky this is a reestimate of control areas made necessary by division between Federal and non-Federal lands 13,387 acres being added.

(4) In Maryland a reduction was made from 207,964 acres in control area because former figure included much pine not worth working.

(5) In North Carolina an adjustment has been made in acreage figures, previous totals being incorrect.

(6) In North Carolina previous totals were incorrect because 919,079 rework acreage had been included with initial acreage.

(7) In West Virginia control acreage was raised to 740,000 because preeradication survey acreage of 729,023 acres exceeded former control area of 675,000 acres. Pine acreage was also raised because of survey data.

(8) In West Virginia a reduction of 2,389 acres was made in previous totals to correct total figures.

(9) In West Virginia a reduction of 28,874 bushes was made in previous totals to correct total figures.

STATE	Initial Eradication Work			
	Net Acreage Worked in Control Areas	Number Ribes Destroyed		Number 8 hour man-days
		Wild	Culti.	
	f	g	h	i
Delaware	4,267	21	3,656	253
District of Columbia	1,875	-	-	-
Georgia	825,232	4,980,899	232,781	22,054
Kentucky	80,565(3)	2,095	1,830	887
Maryland	175,038	2,907,412	5,450	12,284
North Carolina	1,586,807(6)	994,374	563,024	32,325
South Carolina	29,635	-	7,129	1,245
Tennessee	836,998	5,353,484	200,675	38,699
Virginia	682,720	5,227,272	54,920	59,102
West Virginia	648,646(8)	4,298,603(9)	13,460	36,283
Totals	4,871,783	23,764,160(9)	1[illegible],925	203,082

TABLE IA (continued)
SUMMARY OF ALL RIBES ERADICATION 1918-1940(Inclusive)

STATE	Reeradication			
	Acreage Worked	Number Ribes Destroyed		Number 8 hour man-days
		Wild	Culti.	
Delaware	-	-	115	15
District of Columbia	-	-	-	-
Georgia	12,430	310,485	659	2,762
Kentucky	780	1	7	(1)
Maryland	50,063	729,760	2,394	7,865
North Carolina	1682,975(2)	407,833	81,684	15,032
South Carolina	1,045	-	358	182
Tennessee	21,988	1[illegible]5,066	60,073	2,121
Virginia	76,666	1,824,452	1,211	23,220
West Virginia	65,983(3)	459,688(4)	89	4,050
Totals	1,911,930	3,907,285(4)	146,590	55,247

(1) In the District of Columbia and Kentucky area worked by agent - charged to supervision.
(2) In North Carolina, acreage reworked has been increased because of error in previous total, 919,079 acres being transferred from the initial column to the rework column.
(3) In West Virginia, addition of 1,648 acres was made in previous totals to correct totals to date.
(4) In West Virginia addition of 28,896 bushes was made in previous totals to correct totals to date.

State	Totals				Percent	Per Acre			
	Net Acreage worked in control areas	Number Ribes Destroyed		Number 8 hour man-days	Initial Erad.	Ribes		Man-days	
					Worked	Init. Erad.	Reera ad.	Init. Erad.	Re-erad
		Wild	Culti.						
Dela.	4,267	21	3,771	268	100	.86	-	.05[illegible]	-
D. C.	1,875		-	-	100	-	-	(1)	(1)
Ga.	837,662	5291,384	233,440	24,816	90	6.3	25.0	0.027	.02[illegible]
Ky.	81,345	2,096	1,837	837	100	0.04	0.01	0.01	(1)
Md.	225,101	3637,172	7,844	20,149	100	16.6	14.6	0.07	0.15
N. C.	3,269,782	1402,207	667,708	47,357	100	0.996	0.291	.0203	.00[illegible]
S. C.	30,680	- -	7,487	1,427	100	0.24	0.34	0.04	0.16
Tenn.	858 86	5528,550	260,748	40,820	95.7	6.6	10.7	0.046	0.09[illegible]
Va.	759,386	7051,724	56,131	82,322	94.4	7.7	23.8	0.09	0.30
W. Va(5)	714,629	4758,291(6)	18,549	40,333	87.7	6.6	6.70	0.056	0.06[illegible]
Totals	6,783,713 (7)	27671,445 (6)	1257,515	258,329	94.9	5.10	2.12	0.042	0.02[illegible]

(5) In West Virginia, subtraction of 741 acres was made in previous totals to correct totals to date
(6) In West Virginia addition of 22 bushes was made in previous totals to correct totals to date
(7) Total acreage figures changed because of correction in Kentucky, North Carolina and West Virginia figures, the net change being an addition of 12,656 acres.

TABLE 31

SUMMARY OF ALL RIBES ERADICATION BY PROGRAMS 1918-1940 Inclusive

STATES	Total Acreage Reported Worked (Initial and Re-eradication)	Regular and Cooperative			
		Acreage Worked	Number Ribes Destroyed		No. 8 hour man-days
			Wild	Cultivated	
Delaware	4,267	7	1	240	12
District of Columbia	1,875	1,875	-	-	(1)
Georgia	837,662	-	-	-	-
Kentucky	81,345	18,205(2)	1	7	(1)
Maryland	225,101	2,810	159,621	179	387
North Carolina	3,269,782	54,394	10,693	4,786	321
South Carolina	30,680	3,145	-	12	12
Tennessee	858,986	-	-	-	-
Virginia	759,386	10,299	61,450	2	179
West Virginia	714,629	3,970	22,866(3)	-	244
Totals	6,783,713	(2) 94,705	254,632(3)	5,226	1,155

(1) Worked by agent, charged to supervision.
(2) Adjustment made in previous totals in Ky. to give correct cumulative totals.
(3) In West Virginia an addition of 22 bushes has been made to correct error in previous tables.

State	WPA and ERA				ECW and SCS			
	Acreage Worked	No. of Ribes destroyed		No. 8 hour man-days	Acreage Worked	No. of Ribes Destroyed		No. 8 hour man-days
		Wild	Culti.			Wild	Culti.	
Dela.	4,260	20	3,531	256	-	-	-	-
D. C.	-	-	-	-	-	-	-	-
Ga.	646,474	5287,233	212,338	24,032	15,493	-	235	51
Ky.	1,617	-	-	(1.)	-	-	-	-
Md.	79,630	1741,531	4,892	12,670	15,225	545,170	244	3,503
N. C.	2144,006	1287,274	528,195	39,991	166,199	80,399	7,692	3,094
S.C.	4,050	-	556	596	888	-	-	21
Tenn.	675,552	5250,464	[illegible]	[illegible]	61,094	111,391	244	1,847
Va.	535,448	4294,532	34,171	53,279	89,239	1975,694	731	23,393
WestVA.	580,899	3767,337	12,864	28,438	83,715	627,057	982	9,241
Totals	4671,936	21628,391	1055,137	196,796	431,853	3339,711	10,128	41,150

(4) In W.Va. corrections of 741 acres were made decreasing former totals to make cumulative totals correct.

State	P.W.A. or N.R.A.				Total Emergency Program (W.P.A. E.C.W. P. W. A.)			
	Acreage Worked	No. of Ribes Destroyed		No. of 8 hour man-days	Acreage Worked	No. Ribes Destroyed		No. 8 hour man-days
		Wild	Culti.			Wild	Culti.	
Dela.	-	-	-	-	4,260	20	3,531	256
Ga.	175,695	4,181	20,867	733	837,662	5,291,384	233,440	24,816
Ky.	61,523	2,095	1,830	837	63,140	2,095	1,830	837
Md.	127,436	1190,850	2,529	3,589	222,291	3,477,551	7,665	19,762
N.C.	905,183	23,841	127,035	3,951	3215,388	1,391,514	662,922	47,039
S.C.	22,597	-	6,919	798	27,535	-	7,475	1,416
Tenn.	122,340	166,695	1,914	1,439	858,986	5,528,550	260,748	40,820
Va.	124,400	720,048	21,227	5,471	749,087	6,990,274	56,129	82,143
W.Va.	46,045	341,031	4,703	2,410	710,659(4	4,735,425	16,549	40,039
Totals	1585,219	2448,711	187,024	19,228	6689,008	27,416,813	1,252,289	257,174

TABLE #31

SUMMARY OF ALL OTHER CONTROL WORK, 1918-1940 (Inclusive)

STATE	Cultivated Black Currant Eradication			
	Number Inspections Made	Number Locations Found	Number Black Currants Destroyed	Number 8 hour man-days
Delaware	-	-	-	-
Georgia	19	19	1,126	20
Kentucky	-	-	-	-
Maryland	25	25	2,211	No data
North Carolina	2	2	3	.25
South Carolina	-	-	-	-
Tennessee	-	-	-	-
Virginia	24	24	12	0.25
West Virginia	1	1	-	0.50
	71	71	3,352	45.75

State	Nursery Sanitation							
	No. of Nurseries		No. Acres Worked			Number Ribes Destroyed		
	Sanitation Zone Maintained	Sanitation Zone Abandoned	Nurseries Maintainig Zones	Nurs. Which Abandoned Zones	Total Acreage	Wild	Culti.	No. 8 hour man-days
Dela.	2	5	700	1,300	2,000	-	93	-
Ga.	-	1	-	179	179	-	8	1
Ky.	1	-	200	-	200	-	24	(1)
Md.	13	-	7,212	-	7,212(1)	12,314	178	400(2)
N. C.	21	-	5,567(3)	-	5,567	1,577	747	205
S. C.	-	-	-	-	-	-	-	-
Tenn.	3	-	1,202	-	1,202	-	14	12
Va.	10	-	2,020	-	2,020	73	48	9
West Va.	2	-	768	-	768	30,126	620	694
Totals	52	6	17,669	1,479	19,148	44,090	1,732	1,321

(1) Work by agent in Kentucky and D. C. charged to supervision
(2) Mr. Yost corrects an error in previous reports.
(3) In West Virginia an increase of 460 acres was made.

State	Preeradication Survey		Treatment Infected White Pine				
	No. Acres Mapped W. Pine and Prot. Zones	Number 8 hour man-days	Number Trees Examined	Treated	Removed	Number Cankers Removed	Number 8 hour man-days
Dela.	4,267	449	-	-	-	-	-
D. C.	1,875	(1)	-	-	-	-	-
Ga.	997,058	10,057	-	-	-	-	-
Ky.	80,565						
Md.	208,124	1,767	139,354	5,033	258	14,725	927
N. C.	1,702,766	27,849	-	-	-	-	-
S. C.	29,635	4					
Tenn.	850,263	21,954					
Va.	731,704	15,066	615,481	23,561	3419	121,741	2,903
W.Va.	729,023	17,149	-	-	-	-	-
Totals	5335,280	94,295	754,835	28,594	3677	136,466	3,830

TABLE 4A

SUMMARY OF ALL EXPENDITURES, 1918-1940 (Inclusive)

STATE	Federal (All Agencies Incl. State WPA Projects)	State (Incl. all Coop. funds)	Grand Total
Delaware	4,715.43	949.20	5,664.63
District of Col.	39.96	-	39.96
Georgia	110,572.51	16,791.74	127,364.25
Kentucky	7,810.11	290.00	8,100.11
Maryland	109,301.81(2)	10,910.20	120,212.01(2)
North Carolina	264,772.50(3)	39,348.13	304,120.63(3)
South Carolina	7,811.40	610.00	8,421.40
Tennessee	182,673.95(4)	28,794.82	211,468.77(4)
Virginia	369,727.35(5)	8,808.01	378,535.36(5)
West Virginia	251,351.97(6)	12,029.39	263,381.36(6)
Totals	11,308,776.99	118,531.49	1,427,308.48

(1) In Georgia, an addition of $197.38 was made to previous total of Federal, Regular on account of omission in 1939; total in 1939 being $257.38.

(2) In Maryland a subtraction of $3.94 was made from previous totals of Federal, Regular on account of error in 1939; $182.29 being given whereas correct figure was $178.35.

(3) In North Carolina an addition of $1.50 was made to previous totals of Federal, Regular on account of omission in 1939; $242.43 being given instead of $243.93

(4) In Tennessee an addition of $280,61 was made to previous totals of Federal, Regular on account of omission in 1939; $562.96 being given instead of $843.57

(5) In Virginia $10.98 was subtracted from previous totals on account of errors; $82.70 in 1939 being charged against Kentucky and District office alike for Ball's work; to be subtracted from District; $71.72, Virginia outside of Richmond omitted in 1939 from Federal, Regular. Net difference $10.98.

(6) In West Virginia a subtraction of $3.20 was made in previous totals on account of refund in appropriation 701082.

RECAPITULATION BY PROGRAMS

State	REGULAR	Emergency					
	Federal & State Coop.	Fed. WPA C. W. A. ERA N. Y. A.	State W. P. A.	E. C. W. S. C. S.	P. W.A.	Total Emergency Programs
Dela.	1,242.40	4,422.23	-	-	-	4,422.23
D. C.	39.96	-	-	-	-	-
Ga.	17,826.57(1)	101,912.49	-	281.66	7,343.53	109,537.68
Ky.	1,860.33	-	-	-	6,239.78	6,239.78
Md.	20,329.36(1)	73,374.99	-	4,341.75	22,155.91	99,882.65
N. C.	43,690.38(3)	172,795.83	51,688.87	8,637.95	27,307.10	260,429.75
S. C.	690.00	1,876.91	-	43.04	5,811.45	7,731.40
Tenn.	33,302.82(4)	143,976.87	14,176.05	7,141.91	12,871.12	178,165.95
Va.	53,395.48(5)	197,100.98	41,002.21	51,453.20	35,583.49	325,139.88
W. Va.	19,050.06	183,048.68(5)	18,711.00	24,706.12	17,865.50	244,331.30(6)
Totals	191,427.86	878,508.98	125,578.13	96,605.63	135,187.88	1,235,880.62

TABLE 4 A (continued)

SUMMARY OF ALL EXPENDITURES, 1918-1940(Inclusive)

State	Recapitulation By Activities (Federal and State)						
	Supervision (Including State and District leaders)	Ribes Eradication	C. B. C. Eradication	Nursery Sanitation	Canker Elimination	Preeradication Survey	All Other (Checking, Field, Data and Misc.
Dela.	620.25	2,077.93	-	56.36	-	1,706.26	1,203.83
D. C.	39.96	-	-	-	-	-	-
Ga.	27,489.01	54,067.15	65.00	123.20	-	30,320.40	15,299.49
Ky.	2,929.96	4,345.24	-	-	-	(7)	824.91
Md.	48,059.42	56,978.87	-	560.22	2615.72	6,482.07	5,515.71
N. C.	86,100.87	118,879.08	1.00	496.39	-	65,984.51	32,658.78
S. C.	666.24	7,450.16	-	-	-	20.00(8)	285.00
Tenn.	49,365.96	96,532.00	-	25.14	-	53,761.15	11,784.52
Va.	140,982.27	175,007.92	1.00	1,209.69	5692.30	42,804.28	12,837.90
W. Va.	60,762.80	131,405.03	2.00	3,581.96	-	66,510.05(9)	1,119.52
Total	417,016.74	646,743.38	69.00	6,052.96	8308.02	267,588.72	81,529.66

(7) Work in 1934-1935 all charged to supervision on ribes eradication
(8) Corrections have been made in previous totals in Georgia, Maryland, North Carolina, Tennessee and Virginia. For detailed explanation see footnote on Table 4A, Sheet 1.
(9) A credit of $3.20 for refund on appropriation 701082 is made, this decreasing previous expenditures by that amount.

TABLE 4B

STATUS OF BLISTER RUST CONTROL 1918 - 1940

STATES	Control Area Including Border Zones	Net Control Area Initially Protected	Control Areas Reworked Subsequent to Initial Protection	No. 8 Hour Man-days
	(Acres)	(Acres)-	(Acres)	(Man-Days)
Delaware	4,267(1)	4,267	-	268
District of Columbia	1,875	1,875	-	-
Georgia	915,846(1)	825,232	12,430	24,816
Kentucky	80,565(2)	80,565(2)	780	837
Maryland	175,038(3)	175,038	50,063	20,149
North Carolina	1,586,807(4)	1,586,807(4)	1,682,975(4)	47,357
South Carolina	29,635	29,635	1,045	1,427
Tennessee	874,500(1)	836,998	21,988	40,820
Virginia	723,658(1)	682,720	76,666	82,322
West Virginia	740,000(5)	648,646	65,983	40,333
Totals	5,132,191	4,871,783	1,911,930	258,329

(1) In Delaware, Georgia, Tennessee and Virginia control area figures were raised since estimates of last year were exceeded in initial working in 1940.

(2) In Kentucky control area reestimated, former figure too low.

(3) In Maryland, control area acreage reduced, since 1939 figure included much pine not worth working.

(4) In North Carolina a reduction of 898,027 acres was made in control area and initial working, since surveys showed former figures in error, and that much initial work was really second working.

(5) In West Virginia surveys show more control acreage than was estimated last year.

STATES	Ribes Destroyed Wild and cultivated	Remaining Control Area Needing Initial Protection	Estimated Protected Area now on maintenance Basis
	(Number)	(Acres)	(Acres)
Delaware	3,792	-	4,267
District of Columbia	-	-	1,875
Georgia	5,524,824	90,614	617,562
Kentucky	3,933	-	80,565
Maryland	3,645,016	-	152,000
North Carolina	2,069,915	-	1,561,807
South Carolina	7,487	-	29,635
Tennessee	5,789,298	37,502	680,000
Virginia	7,107,855	40,938	375,000
West Virginia	4,776,840	91,354	394,562
Totals	28,928,960	260,408	3897,273

TABLE 5A

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP 1918-1940 INCLUSIVE
(Sheets 1 and 2)

Land Ownership	Total Acreage of White Pine Worth protection(Wp. 4 prot. Zones	CONTROL AREAS Total Acreage	Acreage not yet worked initially
National forests	528,459	1,189,835	71,547
Resettlement lands	909	3,125	-
U. S. Army Engineers	1	62	-
National parks	32,904	72,296	5,073
Indian Reservations	5	100	-
Subtotal (Federal)	562,278	1,265,418	76,620
State and private	1,788,638	3,866,773	183,788
Grand Totals	2,350,916	5,132,191	260,408

Land Ownership	INITIAL ERADICATION Net Acreage worked	Number Ribes Destroyed	Number 8 hour man-days
National Forests	1,118,288	8,608,473	57,615
Resettlement Lands	3,125	283,877	1,362
U. S. Army Engineers	62	-	-
National parks	67,223	1,737,855	14,716
Indian Reservations	100	-	-
Subtotals (Federal)	1,188,798	10,630,205	73,693
State and private	3,682,985	14,244,880	129,389
Grand Totals	4,871,783	24,875,085	203,082

Land Ownership	Re-eradication work Acreage worked	Number Ribes Destroyed	Number 8 hour man-days
National forests	201,888	1,467,017	20,329
Resettlement Lands	1,338	143,324	687
U.S. Army Engineers	-	-	-
National parks	23,740	440,619	8,480
Indian Reservations	-	-	-
Subtotals (Federal)	226,966	2,050,960	29,496
State and private	1,684,964	2,002,915	25,751
Grand Totals	1,911,930	4,053,875	55,247

Land Ownership	Totals (Initial and Rework) Acreage worked	Number Ribes destroyed	No. 8 hour man-days
National forests	1,320,176	10,075,490	77,944
Resettlement lands	4,463	427,201	2 049
U.S. Army Engineers	62	-	-
National parks	90,963	2,178,474	23,196
Indian Reservations	100	-	-
Subtotal (Federal)	1,415,764	12,681,165	103,189
State and private	5,367,949	16,247,795	155,140
Grand totals	6,783,713	28,928,960	258,329

TABLE 5A (Sheets 3, 4, 5 and 6)
SUMMARY OF RIBES ERADICATION ON NATIONAL PARKS 1918-1940 (Inclusive)

National Parks	Total Acreage of white pine worth protecting	CONTROL AREAS Total Acreage (Wp.+prot.zones)	Acreage not yet worked initially
N. C.Great Smoky Mts	12,325	15,601	-
Tenn. " " "	4,989	29,695	5,000
Subtotal" " "	17,314	45,296	5,000
Va. Shenandoah	15,590	27,000	73
Total Nat'l Parks	32,904	72,296	5,073

National Parks	Acreage worked	No. Ribes destroyed	No.8 hour man-days
N. C. Great Smoky Mts	15,601	78,181	1,469
Tenn. " " "	24,695	16	261
Subtotals" " "	40,296	78,197	1,730
Va. Shenandoah	26,927	1,659,658	12,986
Total	67,223	1,737,855	14,716

National Parks	Reeradication Work			Totals (Initial and Rework)		
	Acreage worked	No. Ribes Destroyed	No. 8 hour man-days	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
N.C.Great Smoky Mts.	13,992	4,819	214	29,593	83,000	1,683
Tenn. " " "	-	-	-	24,695	16	261
Subtotal" " "	13,992	4,819	214	54,288	83,016	1,944
Va. Shenandoah	9,748	435,800	8266	36,675	2,095,458	21,252
Totals Nat'l Parks	23,740	440,619	8480	90,963	2,178,474	23,196

SUMMARY OF RIBES ERADICATION ON INDIAN RESERVATIONS 1918-1940(Inclusive)

Indian Reservations	Total Acreage of white pine worth protecting	CONTROL AREAS Total Acreage (W.P. & prot. zones)	Acreage not yet worked initially
N. C. Cherokee	5	100	-

Indian Reservations	INITIAL ERADICATION WORK		
	Acreage worked	No. Ribes destroyed	No. 8 hour man-days
Cherokee	100	-	-

Indian Reservations	ReEradication Work	Totals (Initial and Rework)		
		Acreage Worked	Ribes destroyed	No. 8 hour man-days
N. C. Cherokee		100	-	-
Totals		100		

TABLE 5A (Sheets 7 and 8)

SUMMARY OF RIBES ERADICATION ON STATE AND PRIVATE LANDS
1918-1940 (Inclusive)

State and private lands, by States	Total Acreage of White Pine Worth protection	CONTROL AREAS	
		Total Acreage (W. P. & Prot Zones)	Acreage not yet worked initially
Delaware	193	4,205	-
District of Columbia	25	1,875	-
Georgia	222,500	460,846	46,778
Kentucky	47,669	50,000(1)	-
Maryland	74,812	171,913	-
North Carolina	605,650	1,384,806	-
South Carolina	13,062	25,935	-
Tennessee	417,510	619,089	18,778
Virginia	182,217	538,104	34,245
West Virginia	225,000	610,000	83,987
Totals	1,788,638	3,866,773	183,738

(1) All pine acreage has been protected, but actual control area is unknown and is here estimated for first time.

State and private lands, by States	INITIAL ERADICATION WORK		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Delaware	4,205	3,677	253
District of Columbia	1,875	-	-
Georgia	414,068	983,677	5,067
Kentucky	50,000	1,830	500
Maryland	171,913	2,628,985	10,922
North Carolina	1,384,806	1,281,400	27,188
South Carolina	25,935	7,091	1,192
Tennessee	600,311	3,864,361	27,888
Virginia	503,859	1,974,306	28,158
West Virginia	526,013	3,499,553	28,221
Totals	3,682,985	14,244,880	129,389

State and Private Lands	RE-ERADICATION WORK		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Delaware	-	116	15
Georgia	11,180	265,390	2,111
Kentucky	730	7	Work by agent charged to supervision
Maryland	48,725	588,830	7,178
N. Carolina	1,522,599	310,860	8,391
S. Carolina	620	358	172
Tennessee	20,856	230,389	2,076
Virginia	31,754	277,404	2,616
West Virginia	48,500	329,562	3,192
Total	1,684,964	2,002,915	25,751

TABLE 5A (Sheet 8 continued)

SUMMARY OF RIBES ERADICATION ON STATE AND PRIVATE LANDS

1918-1940 Inclusive

State and private Lands By States	TOTALS (INITIAL AND REWORK)		
	Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Delaware	4,205	3,792	268
District of Columbia	1,875	-	-
Georgia	425,248	1,249,067	7,178
Kentucky	50,730	1,837	500
Maryland	220,638	3,217,815	18,100
North Carolina	2,907,405	1,592,260	35,579
South Carolina	26,555	7,449	1,364
Tennessee	621,167	4,094,750	29,964
Virginia	535,613	2,251,710	30,774
West Virginia	574,513	3,829,115	31,413
Totals	5,367,949	16,247,795	155,140

PAGE 5A (Dated 3 Aug 40)

SUMMARY OF RIBES ERADICATION ON NATIONAL FOREST LANDS 1918-1940 (Inclusive)

National Forests (By States)		Total Acreage of White Pine	CONTROL AREAS Total Acreage (w. p. & prot. Zones	Acreage not yet worked initially
Georgia	Chattahoochee	247,500	455,000	43,836
Tennessee	Cherokee	104,701	225,716	15,724
Kentucky	Cumberland	14,478	30,565	-
Virginia	George Washington	48,665	118,554	2,137
W. Virginia	" "	21,000	50,000	3,061
Virginia	Jefferson	10,297	40,000	4,483
West Va.	Monongahela	29,000	80,000	4,306
N. Carolina	Nantahala	23,442	55,103	-
N. Carolina	Pisgah	27,301	131,197	-
S. Carolina	Sumter	2,075	3,700	-
Totals		528,459	1,189,835	71,547

National Forests (By States)		INITIAL ERADICATION WORK Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Georgia	Chattahoochee	411,164	4,230,003	16,987
Tennessee	Cherokee	211,992	1,689,782	10,551
Kentucky	Cumberland	30,565	2,095	(1) 337
Virginia	George Washington	116,417	1,071,321	10,890
W. Virginia	" "	46,939	492,855	4,529
Virginia	Jefferson	35,517	576,907	7,068
W. Virginia	Monongahela	75,694	324,655	3,533
N. Carolina	Nantahala	55,103	395	494
N. Carolina	Pisgah	131,197	220,424	3,173
S. Carolina	Sumter	3,700	38	53
Totals		1,118,288	8,608,473	57,615

(1)In Ky. land surveyed in 1934 was all privately owned.

National Forests (By States)		Re-ERADICATION WORK Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Georgia	Chattahoochee	1,250	45,754	651
Tennessee	Cherokee	1,132	4,750	45
Kentucky	Cumberland	50	1	(2)
Virginia	George Washington	31,201	344,687	6,951
W. Virginia	" "	13,784	79,036	634
Virginia	Jefferson	3,963	767,772	5,387
West Virginia	Monongahela	3,699	51,179	224
N. Carolina	Nantahala	-	-	-
N. Carolina	Pisgah	146,384	173,838	6,427
S. Carolina	Sumter	425	-	10
Totals		201,888	1,467,017	20,329

(2) Work charged to supervision

National Forests (By States)		TOTALS (Initial and Rework) Acreage Worked	No. Ribes Destroyed	No. 8 hour man-days
Georgia	Chattahoochee	412,414	4,275,757	17,638
Tennessee	Cherokee	213,124	1,694,532	10,596
Kentucky	Cumberland	30,615	2,096	337
Virginia	George Washington	147,618	1,416,008	17,841
West Va.	" "	60,723	571,891	5,163
Virginia	Jefferson	39,480	1,344,679	12,455
W. Va.	Monongahela	79,393	375,834	3,757
N. Carolina	Nantahala	55,103	393	494
N. Carolina	Pisgah	277,581	394,262	9,600
S. Carolina	Sumter	4,125	38	63
Totals		1,320,176	10,075,490	77,943

PERSONNEL

P E R S O N N E L

Calendar Year 1940

State	Name	Title	Originally appointed on BRC	Salary paid from	Terminated
Delaware					
	Bernard C. Pufahl	Supervisor	8-15-38 (On Fed. WPA)	Federal WPA and Regular	7-16-40
Georgia					
	William V. Zimmer	State Leader	5-2-34	Regular and Federal WPA	
	Thomas M. Corn	Agent	8-22-35	Federal WPA	8-31-40
Maryland					
	Henry E. Yost	State leader	9-13-33	Regular	
North Carolina					
	Hillary B. Teague	State Leader	5-1-34	Regular and State	
	Mark M. Ferguson	Agent	5-12-36	State and State WPA	
	Oscar V. Coulter	Agent	8-10-36	State and State WPA	
	Hobart A.Whitman	Agent	7-27-34	State and State WPA	
Tennessee					
	Radford D.Tanksley	State leader	9-24-36	Regular and State	
	John W. Lane	Agent	5-25-36	Federal WPA	
	Ralph L. Miller	Agent	4-7-39(iNVa.)	State WPA	
	Walter A.Stegall	Agent	5-7-34	State WPA	
Virginia					
Richmond					
	Roy G. Pierce	Pathologist	7-1-08	Regular	
	James C. Ball	Asst.Forester	10-9-33	Regular	
	Harry K.Cooper	Principal Clerk	10-21-38 (from War Dept)	Regular	
	Minnie C. Hudgins	Asst.Clerk-stenographer	10-21-35	Regular	
	Ellen G.Fischer	Jr.Clerk Sten.	5-16-39	Fed.WPA Admin.	
	Jewell E.Hudson	Jr.Clerk Sten.	4-17-39	Fed. WPAADmin.	
Charlottesville					
	John G. Luco,Jr.	State leader	5-21-34	Reg.State WPA & Fed.WPA	
	Geo.C.Cramer	Agent	2-4-35	Federal WPA	
	William M. Early	Agent	5-21-34	State WPA	
	Martin Q. Miller	Agent	2-1-39	State WPA	
	Joseph W.Showalter	Agent	2-13-40	State WPA	7-30-40
West Virginia					
	Joseph M.Ashcroft	State leader	5-12-34	Regular and Fed.WPA	
	George C.Hamilton	Agent	6-18-34	State WPA	
	Kermit McKeever	Agent	5-5-36	State WPA	
	Ralph W. Welch	Agent	5-12-34	Reg., State, State WPA and Fed. WPA	

P E R S O N N E L

(Foremen - Grade B)

Calendar Year

1 9 4 0

GEORGIA

County	Name	Grade
Gilmer	Estill M. Hensley	Skilled
"	John E. Price	"
"	Herbert C. Searcy	"
Murray	Fields K. McKinnish	"

MARYLAND

Garrett	Lory A. Whitmer	"
"	Raymond G. Paugh	"

NORTH CAROLINA

Buncombe	William Tinker	"
Haywood	Pink T. Messer	"
"	David D. Fish	"

TENNESSEE

Carter	Rhudy A. Fortner	"

VIRGINIA

Augusta	John H. Wise	"
"	C. Golden Arey	"
Highland	Cam A. Crummett	"
Rockingham	Newton E. Moore	"

WEST VIRGINIA

Mercer	Elmer Gwynee	"

(Foreman, Grade A)

NORTH CAROLINA

Haywood	Carson Swanger	Professional

SUMMARY OF TRUCK ACCIDENTS DURING 1940

North Carolina

January 31, 1940. 1935 Dodge pickup, USDA 62-045. Government driver, Hyatt Messer. In rounding icy curve the truck skidded and turned over, causing damage to it of approximately $50.00. Accident considered unavoidable, and no other vehicle involved. No personal injuries. Case closed.

Tennessee

August 21, 1940. 1935 Dodge pickup, USDA A5-861. Government driver - Walter A. Stegall. While traveling down a mountain road curve, our truck was struck by a private car proceeding up the curve from the opposite direction, on wrong side of road. It was determined that the driver of the private car was at fault and he has paid for damages to our truck amounting to $2.50. No personal injuries. Case closed.

Virginia

March 6, 1940. 1933 Chevrolet Stakebody, 1½-ton truck, USDA A5-657, Government driver - Clarence G. Jordan. The brakes on a privately-owned trailer truck failed to hold on a steep grade at a Stop signal and truck backed into Government truck, damaging front end of chassis and radiator to the exteht of $20.00. Our truck in turn was pushed against a third vehicle, a privately-owned car. The repairs to our truck and the car, amounting to $19.20, were paid for by the owner of the trailer truck, who accepted responsibility for the accident. No personal injury was sustained. Case closed.

SUMMARY OF ACCIDENTS SUSTAINED BY PERSONNEL DURING CALEND YEAR 1940

State	Name of Injured	Date of injury	Nature of injury	Compensable time lost	Reported to Compensation Commission
GEORGIA	W. V. Zimmer	2/26/40	Finger bruise	None	Yes
N. CAROLINA	Oscar Teaster	7/8/40	Rib fracture	11½ days	"
TENNESSEE	Hench Ricker	3/29/40	Ear rupture	None	"
"	H. E. Wilhoit	4/2/40	Foot sprain	8½ days	"
"	Richard Norton	4/15/40	Arm bruise	None	"
"	F. J. Lowery	4/7/40	Eye inflamation	"	"
"	J. W. Lane	10/24/40	Eye bruise	"	"
VIRGINIA	R. E. Freed	6/12/40	Hernia	"	"
"	H. E. Erwin	8/7/40	Hand bruise	"	No
"	S. E. Ritchie	8/29/40	Wrist sprain	"	"
"	J. G. Luce	9/18/40	Forehead cut	"	"
"	N. E. Moore	11/8/40	Hand burn	"	"
"	T. W. Mitchell	11/28/40	Eye bruise	"	Yes
"	W. H. Moore	12/18/40	Hand bruise	"	No
W. VIRGINIA	J. B. Hubbard	9/13/40	Eye [illegible]ion	"	Yes
"	W. C. Lambert	12/17/40	Leg cut	9 days	"

Location of Bl[illegible]ter Rural Farmsteads

In the Southern Appalachian States in 1940

by Projects, State, County and Activity

DELAWARE

	Federal WPA
Local Control	Kent, New Castle and Sussex counties
Other Activities	Kent, New Castle and Sussex counties
Office	New Castle County

GEORGIA

	Federal WPA
Local Control	Fannin, Gilmer, Murray and Rabun counties
Other Activities	Fannin, Gilmer, Lumpkin, Murray and Union counties
Office	Gilmer and Lumpkin counties
	Regular
Local Control	Fannin, Lumpkin, Murray and Rabun counties
Other Activities	Fannin, Lumpkin, Murray and Rabun counties
Office	Rabun County
	N. Y. A.
Office	Lumpkin County

MARYLAND

	Federal WPA
Local Control	Garrett County
Other Activities	Allegany, Anne Arundel, Baltimore, Charles, Carroll, Frederick, Harford, Howard, St. Marys and Washington counties.
Office	Allegany County
	E. C. W.
Local Control	Allegany and Garrett counties
	Regular
Local Control	Allegany, Garrett and Washington counties.

NORTH CAROLINA

	Federal WPA
Local Control	Haywood, Madison and Yancey counties
Other Activities	Buncombe, Haywood and Yancey counties
Office	Buncombe, Haywood and Yancey counties
	State WPA
Local Control	Ashe, Avery, Buncombe, Haywood, Mitchell, Watauga and Yancey counties.
Other Activities	Avery, Buncombe, Haywood, Mitchell, Watauga and Yancey counties
Office	Avery, Buncombe, Haywood, Mitchell, Watauga and Yancey counties.

NORTH CAROLINA (continued)

E. C. W.

Local Control	Haywood County
Other Activities	Haywood County

Regular (Incl. State & Local Cooperation)

Local Control	Buncombe, Haywood and Madison counties
Other Activities	Avery, Buncombe, Haywood, Watauga and Mitchell counties
Office	Avery and Buncombe counties

N. Y. A.

Local Control	Buncombe County
Office	Avery, Buncombe, Haywood and Watauga counties

TENNESSEE

Federal WPA

Local Control	Carter, Greene, Washington and Sullivan counties
Other Activities	Carter, Greene, Sullivan and Washington counties
Office	Carter, Greene and Knox counties.

State WPA

Local Control	Sevier and Unicoi counties
Other Activities	Cocke and Sevier counties
Office	Cocke and Sevier counties

ECW

Local Control	Polk County
Other Activities	Polk County
Office	Polk County

Regular

Office	Knox County

VIRGINIA

Federal WPA

Local Control	Augusta, Bath and Highland counties
Other Activities	Augusta, Bath, Highland, Albemarle and Fairfax counties
Office	Albemarle, Augusta and Rockingham counties

State WPA

Local Control	Amherst, Botetourt, Clarke, Greene, Madison, Page, Rockbridge, Rockingham, Shenandoah and Warren counties.
Other Activities	Amherst, Clarke, Greene, Madison, Page, Rockingham, Shenandoah and Warren counties.
Office	Albemarle, Luray, Page, Rockingham, Pittsylvania and Rockingham counties.

E. C. W.

Local Control	Madison, Page and Rappahannock counties.
Other Activities	Albemarle, Greene, Madison, Page, Rappahannock and Warren counties.
Office	Page County

VIRGINIA (continued)

	Regular
Office	Rockingham and Henrico counties
Other Activities	Grayson and Smyth counties
	N. Y. A.
Office	Henrico and Rockingham counties

WEST VIRGINIA

	Federal WPA
Local Control	Mercer County
Other Activities	Summers County
Office	Mercer, Pocahontas and Raleigh counties
	State WPA
Local Control	Hardy, Pendleton and Summers counties
Other Activities	Hardy, Pendleton and Summers counties
Office	Mercer, Pocahontas and Raleigh counties
	E. C. W.
Local Control	Mercer and Raleigh counties
Other Activities	Morgan County
	Regular
Other Activities	Berkeley, Grant, Hampshire, Mineral, Morgan and Tucker counties
Office	Pocahontas County

EXPENDITURES

EXPENDITURES

FEDERAL

During the calendar year 1940 Federal funds expended for blister rust control amounted to $217,387. This is $11,689 more than was expended from Federal sources in 1939. Expenditures from Federal WPA, including Administrative funds, dropped from $151,097 in 1939 to $95,571, a difference of $55,526; but expenditures from State WPA rose from $31,991 in 1939 to $93,586. Counting both Federal and State WPA funds in 1940, including Administrative funds, the amount expended was $189,157, an increase of $6,068 over the $183,089 expended in 1939.

Expenditures from CCC or ECW fell from $12,066 in 1939 to $11,559 in 1940, while expenditures from Regular funds rose from $9,359 in 1939 to $16,670 in 1940.

A comparison of Federal and State expenditures for the past five years follows, together with graphs showing total expenditures for each state for 1940, expenditures for each project, WPA, CCC, etc, and expenditures by activities. Tables are given showing expenditures from each Federal WPA appropriation for fiscal year and calendar year 1940, as well as for NYA in 1940, and for all State WPA appropriations since the beginning of the latter projects in February 1939.

STATE AND PRIVATE

During the calendar year 1940, $14,865 was expended from State and cooperative funds. This was a decrease from the $22,341 expended in 1939. However cash expenditures by the various states increased from $6,477.17 in 1939 to $8177.65, an increase of 26.3%.

Cash expenditures were as follows:

Georgia	$ 174.40
Maryland	24.00
North Carolina	5,152.71
Tennessee	1,609.90
Virginia	664.10
West Virginia	552.54
	$8,177.65

A breakdown of State and Cooperative (private) funds is to be found on an accompanying page.

COMPARISON OF EXPENDITURES

For the

SOUTHERN APPALACHIAN STATES

During

Calendar Years

1936 to 1940 Inclusive

As given in the

Annual Reports for the Region

Agency	1936	1937	1938	1939	1940
Federal	$190,890.93	263,192.96	197,248.68	205,697.87	217,387.38
State and Coop. Agencies	8,326.81	28,120.90	32,273.52	22,341.19	14,855.42
Combined Federal and State	199,217.74	264,313.86	229,522.20	228,039.06	232,242.80

Totals 1928-1940	
Federal	$1,308,876.99
State and Coop. Agencies	118,531.49
Combined all Agencies	$1427,308.48

GRAPH SHOWING TOTAL EXPENDITURES BY STATES

For

BLISTER RUST CONTROL

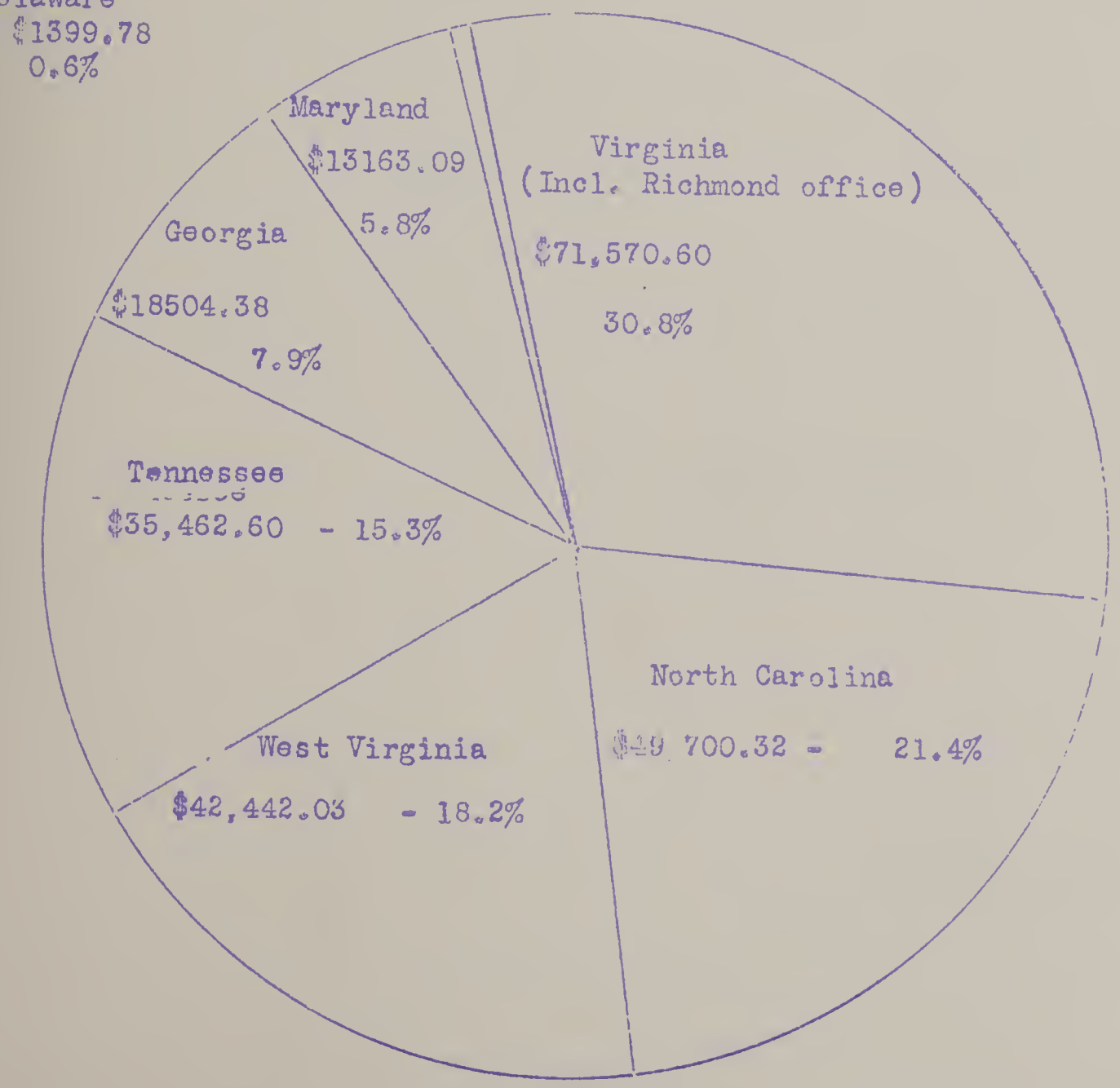
In the

SOUTHERN APPALACHIAN STATES

For

Calendar Year 1940

(Total Expenditure $232,242.80)



GRAPH SHOWING EXPENDITURES BY PROJECTS FOR BLISTER RUST CONTROL

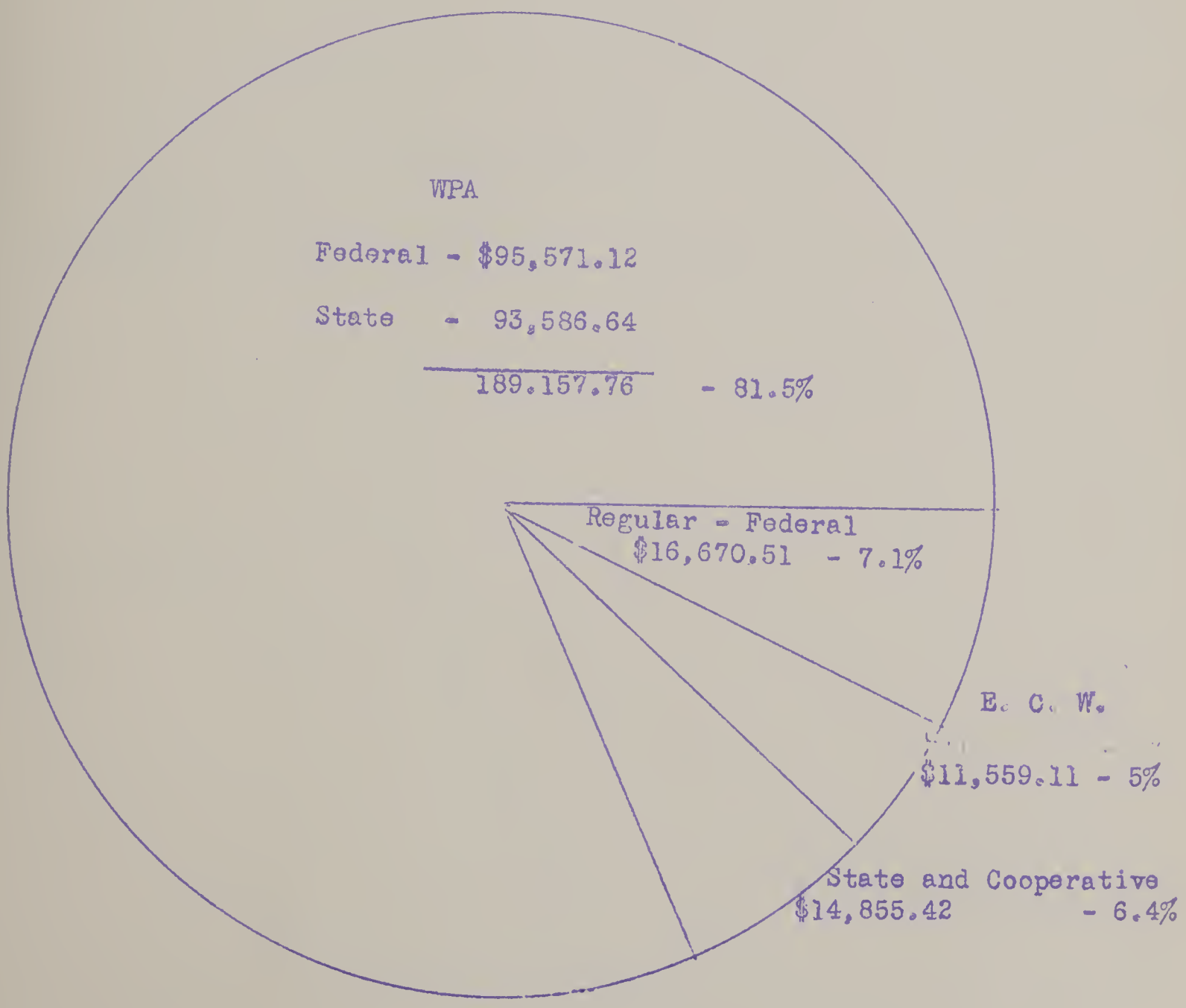
IN THE

SOUTHERN APPALACHIAN STATES

For

Calendar Year 1940

(Total Expenditure $232,242.80)



GRAPH SHOWING EXPENDITURES, BY ACTIVITIES

For

BLISTER RUST CONTROL

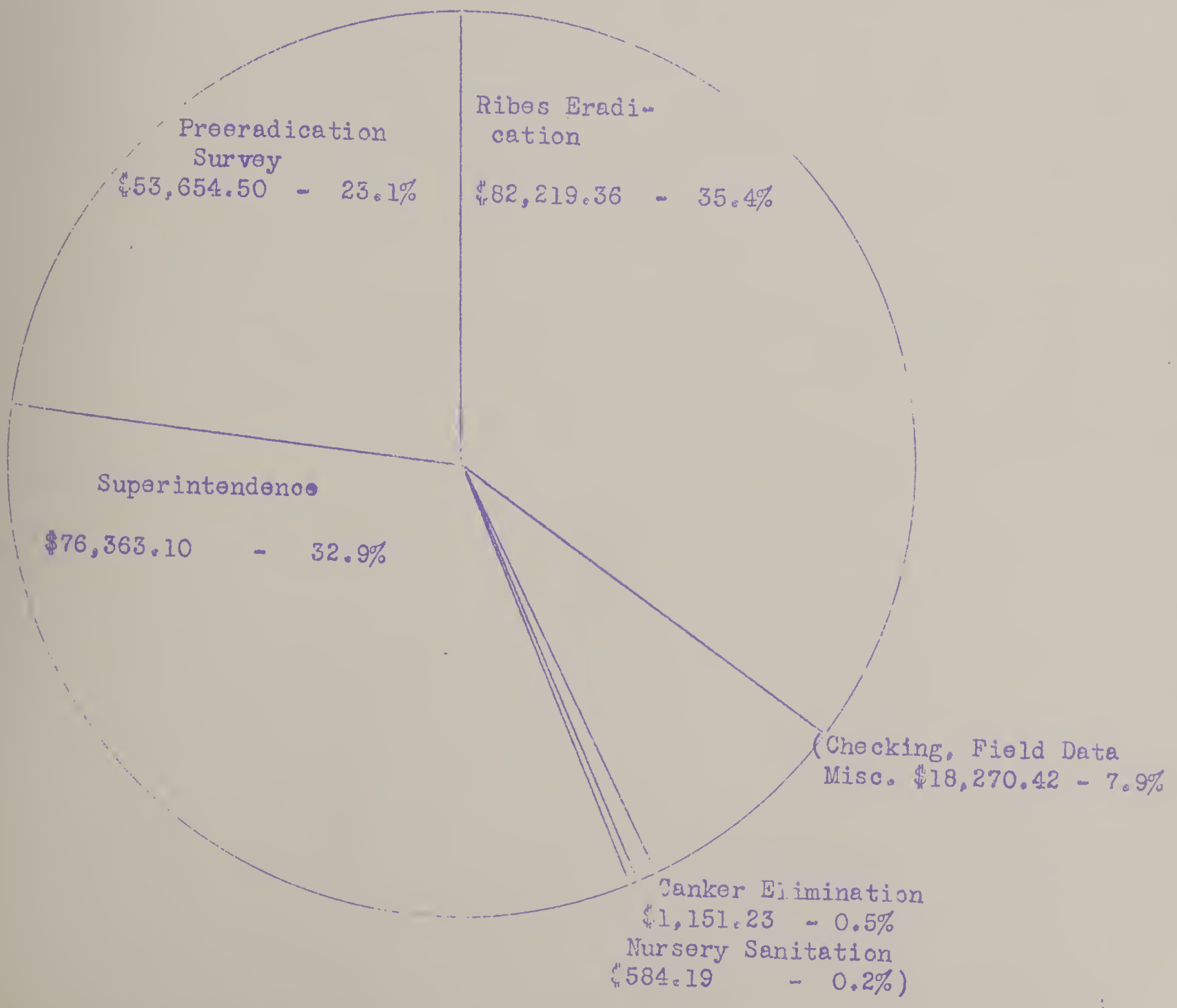
In the

SOUTHERN APPALACHIAN STATES

For the

Calendar Year 1940

(Total Expenditure $232,242.80)



BLISTER RUST CONTROL EXPENDITURES IN THE SOUTHERN APPALACHIAN STATES

IN FISCAL AND CALENDAR YEARS 1940 ON FEDERAL WPA PROJECTS

INCLUDING ADMINISTRATIVE FUNDS

State	Appropriation 201087 for entire Fiscal Year 1940	Appropriation 201087 expended July 1 to December 31, 1939(1)	Appropriation 201087 expended January 1 to June 30, 1940
Delaware	$ 1,996.13	$ 918.63	$ 1,077.50
Georgia	17,426.99	7,020.56	10,406.43
Maryland	9,220.61	3,138.28	6,082.33
North Carolina	19,656.07	10,072.05	9,584.02
Tennessee	21,785.42	10,663.67	11,116.75
Virginia	19,143.09	9,179.78 (2)	9,963.31 (3)
West Virginia	18,620.12	9,380.17	9,239.95
Totals	107,848.43	50,378.14	57,470.29

(1) The figures in this column were used on page 22 of 1939 annual report.
(2) Of this sum $1001.28 was expended in District Office at Richmond for clerical assistance
(3) Of this sum $820.62 was expended in District Office at Richmond for clerical assistance

State	Appropriation 401087 - July 1 to Dec. 31, 1940	Total Fed. WPA Both Appropriations. Cal Year 1940	N. Y. A. Calendar year1940	Administrative funds, District Office, Richmond Calendar Yr 1940	Federal WPA and NYA Calendar Yr. 1940 (1)
Delaware	-	$ 1,077.50	-	-	$ 1,077.50
Georgia	$ 5,703.37	16,109.80	28.00	-	16,137.80
Maryland	2,323.48	8,405.81	-	-	8,405.81
North Carolina	3,270.42(3)	12,854.44	752.93	-	13,607.37
Tennessee	4,984.02(5)	16,100.77	11.82(5)	-	16,112.59
Virginia	7,342.43	17,305.74	407.05(2)	5,974.26	23,687.05
West Virginia	7,303.05(4)	16,543.00	-	-	16,543.00
Totals	30,926.77	88,397.06	1,199.80	5,974.26	95,571.12

(1) Data from Table 4, Sheet 1, of Omnibus Tables 1940 Report.
(2) On NYA in Va. $218.00 was expended outside of Richmond, and $189.05 in Richmond.
(3) Letter from H. B. Teague 3/27/41.
(4) Letter from J. M. Ashcroft 3/10/41- This included $7267.74 from appropriation 401037 and $38.31 from appropriation 201087.
(5) Letter from R. D. Tenkesley 3/18/41.

DATA ON APPROPRIATIONS AND EXPENDITURES FROM STATE WPA APPROPRIATIONS

I N the
SOUTHERN APPALACHIAN STATES

From January 1939 to December 31, 1940

Order Number	State	Appropriation Number	Period	Total Appropriation
1	North Carolina	665-32-2-298	2/22/39-10/27/39	$19,571.00
2	" "	65-1-32-192	11/7/39-11/1/40	31,723.00
3	" "	165-2-32-197	12/7/40 -	36,056.00
4	Sub-total N. C.			$87,350.00
5	Virginia	665-31-2-46	2/1/39 - 5/15/40	12,075.00
6		65-1-31-95	12/7/39 -	32,047.00
7	Sub-total Virginia			44,122.00
8	West Virginia	65-1-41-116	4/8/40 -	32,392.00
9	Tennessee	65-1-44-106	4/4/40 -	26,594.00
Grand Total				$190,458.00

Order number	State	Unexpended Balance	Amount Expended	Operation completed
1	North Carolina	$ 200.00	$ 19,371.00	Yes
2	" "	492.86	31,230.14	Yes
3	" "	34,968.27	1,087.73	No
4	Sub-totals N. C.	35,661.13	51,688.87	
5	Virginia	394.73	11,680.27	Yes
6	"	2,725.06	29,321.94	No
7	Sub-totals Va.	3,119.79	41,002.21	
8	West Virginia	13,681.00	18,711.00	No
9	Tennessee	12,417.95	14,176.05	No
Grand Total		$ 64,879.87	$125,578.13	

State	Reported expended in calendar year 1939	Reported expended in calendar year 1940	Total Both Cal. years
North Carolina	$23,449.00	$28,239.87	$51,688.87
Tennessee	-	14,176.05	14,176.05
Virginia	8,542.49	32,459.72	41,002.21
West Virginia	-	18,711.00	18,711.00
Total	$31,991.49	$93,586.64	$125,578.13

SUMMARY OF EXPENDITURES FROM REGULAR APPROPRIATION OF THE FEDERAL GOVERNMENT
Bureau of Entomology and Plant Quarantine - Blister Rust Control
Fiscal Year 1940

State	Total Expenditures, Regular Funds Fiscal Year 1940, 7/1/1939 6/30/1940	Expenditures Regular funds 7/1 to 12/31 1939	Expenditures Regular Funds 1/1 to 6/30/ 1940
Richmond, Va.	$ 9,285.60	$4,618.81	$4,666.79
Delaware	53.80	29.75	24.05
Georgia	154.06	-	154.06
Maryland	157.14	157.14	-
North Carolina	94.46	21.25	73.21
Tennessee	174.64	129.64	45.00
Virginia	113.52	70.00	43.52
West Virginia	28.50	-	28.50
Totals	$10,061.72	$5,026.59	$5,035.13

Calendar Year 1940

State	Expenditures January 1 - June 30, 1940 Salaries	Non-labor	Expenditures July 1 - December 31, 1940 Salaries	Non-Labor	Total Calendar Year
Delaware	$ -	$ 24.05	$	$ 62.63	$ 86.68
Georgia	-	154.06	450.00	72.12	676.18
Maryland	-	-	1,350.00	140.48	1,490.48
North Carolina	-	73.21	630.25	37.42	740.88
Tennessee	-	45.00	675.00	440.75	1,160.75
Virginia	-	43.52	675.00	71.80	790.32
Richmond, Va.	3,989.88	676.91	5,289.84	957.28	10,913.91
Sub-total Va.	3,989.88	720.43	5,964.84	1,029.08	11,704.23
West Virginia	-	28.50	590.00	48.41	666.91
Totals	$3,989.88	$1,045.25	$9,660.09	$1,830.89	$16,526.11

Breakdown of State and Cooperative Funds

Calendar Year 1940

State	Tangibles						
	Cash Approp. and Allotment	Office and Labor	Use of office Equip.	Clerical Assistance	Storage and use of truck equipment	Cultivated Ribes destroyed by owner	Total Tangibles
Delaware	$ -	$ -	$ -	$ -	$ 18.00	$24.60	$ 42.6
Georgia	174.40	108.00	60.00	-	262.50	12.50	617.4
Maryland	24.00	300.00	60.00	60.00	-	61.30(1)	505.3
N. C.	5,152.71	393.00	85.90	-	-	-	5,631.6
Tenn.	1,609.90	90.00	10.00	20.70			1,730.7
Va.	664.10	-	-	-	-	-	664.1
W. Va.	552.54	300.00	-	-	-	-	852.5
Total	$8,177.65	$1,191.00	$216.00	$80.70	$280.50	$98.40	$10,044.2

(1) This includes value of cultivated ribes destroyed by Bureau ($20.50)

State	Intangibles	
	Intangible Technical Service	Total Tangible and Intangible
Delaware	$ 193.00	$ 235.60
Georgia	1,073.00	1,690.40
Maryland	1,089.00	1,594.30
N orth Carolina	837.45	6,469.06
Tennessee	358.72	2,089.42
Virginia	1,050.00	1,714.10
West Virginia	220.00	1,072.54
Totals	**$4,821.17**	**$14,865.42**

EXPENDITURES OF THE DISTRICT OFFICE AT

RICHMOND, VIRGINIA

IN CALENDAR YEAR 1940

Period	Regular Funds	WPA Administrative	WPA for Virginia Approp. 201087	WPA for Virginia Approp. 40108	N. Y. A.	Total for Calendar year 1940
Jan-June	$ 4,666.79	$4,211.25	$820.62	$ -	$ 44.85	$ 9,743.51
July-Dec.	6,247.12	1 763.01	-	439.20	144.20	8,593.53
For entire year	$10,913.91	5,974.26	820.62	439.20	189.05	18,337.04

EXPENDITURES OF RICHMOND OFFICE FOR REGULAR AND ADMINISTRATIVE FUNDS
For Fiscal Year 1936 to December 31, 1940

Fiscal Year	Regular Appropriation	Administrative Funds	Virginia WPA Appropriation	N. Y. A.	Totals
1936	$ 3,591.58	-	$ 5,108.86(5)	$ -	$ 8,700.44
1937	4,670.25	-	5,044.50(6)	-	9,714.75
1938	5,643.93	$ 2,799.92(1)	3,484.49(7)	-	11,928.34
1939	6,595.68	6,799,55(2)	3,207.56(8)	-	16,602.79
1940	9,202.90	6,584.19(3)	1,821.90(9)	132.44(11)	17,741.43
1941(7/1/40 to 12/ 31/40	6,247.12	1,763.01(4)	439.20(10)	189.05(12)	8,638.38
Total	$35,951.46	$17,946.67	$19,106.51	321.49	73,326.13

(1) Appropriation 501009 F. Y 1938
(2) " 701089) 701009) F. Y. 1939
(3) " 201088 F. Y. 1940
(4) " 401088 F. Y. 1941 First half
(5) " 001089 F. Y. 1936-1937
(6) " 201085 F. Y. 1937
(7) Appropriation 501082 F. Y. 1938
(8) " 701082 F. Y. 1939
(9) " 201087 F. Y. 1940
(10) " 401087 F. Y. 1941 1st hal
(11) " Calendar year 1939
(12) " " " 1940

Table Showing Distribution by Amounts and Percentages of all Non-Labor Funds (WPA, Regular and State) Expended during the Calendar Year 1940 in Connection with F. A. Projects

State	Truck Costs: Gas Oil & Greases	Percent	Tires Repairs & Maint.	Percent	T.R.s and Travel Expenses	Percent	Other Expenses	Percent	Total Expenses	Total FA Man Months	Cost Per Man Month
Georgia	$795	35.44	$713	31.79	$405	18.06	$330	14.71	$2243	388	$7.28
Tennessee	731	33.41	713	32.60	482	22.02	262	11.97	2188	261	8.38
W. Virginia	612	32.35	494	26.11	411	21.72	375	19.82	1892	245	7.72
Virginia*	454	21.30	545	25.57	441	20.70	691	32.43	2131	282	7.56
N. Carolina*	299	18.11	402	24.35	482	29.20	468	28.34	1615	213	7.75
Maryland	230	21.16	111	10.21	646	59.43	100	9.20	1087	131	8.29
Totals	3121	27.89	2978	26.61	2867	25.61	2226	19.89	11192	1440	7.77

*Repair shops in these two states.

Southern Appalachian Region during calendar year 1940 (F. A. Projects only)

In the two states having repair shops the average perfentage of non-labor funds spent for truck operating and maintenance costs is 44.94 while in the states not having such shops this--average percentage is 59.36



FIELD STUDIES



Old planted white pine responsible for 10 to 15 acres of fine growth of young pine
Roll 54 - 5 Photo by H. E. Yost New Castle, Delaware

F I E L D S T U D I E S

MARYLAND

TESTS OF CHEMICALS ON DECAPITATED RIBES BUSHES

In 1940 Mr. Yost conducted a test with six chemicals to determine which would result in the most effective kill to decapitated ribes. Each chemical was tested with two different quantity dosages and each experiment was conducted with 11 bushes. Eleven other bushes which were not treated with chemical but which were decapitated the same as the others, were also used as a check. One hundred and forty-three bushes were treated and staked on July 25, 1940. The bushes were located on the west slope of Meadow Mountain in Garrett County at approximately 2800 feet elevation with a northwestern exposure in open hardwoods.

The bushes selected were old; that is, five years or more of age and some were from two to three feet in height. They were cut off just above the crown with a pocket knife. Each crown was marked with a semi-permanent stake bearing a letter indicating the dosage and a numeral indicating the number of bushes receiving that particular treatment.

The plots were checked on October 7, 1940 with the following results:- On those bushes treated with one part sodium chlorate and five parts borax, dosages 1 ounce and 2 ounces - no sprouting; diesel oil, dosages 2 ounces and 4 ounces - no sprouting; ammonium thiocyanate, dosages 1 ounce and 2 ounces - no sprouting. In the cases of borax, salt and used crank case oil, there was some sprouting with the exception of the test with a dosage of 4.4 ounces of salt.

Since the diesel oil is by far the cheapest of the three agents which resulted in 100 per cent killing, this substance should ordinarily be used where digging the bush is impossible or undesirable. Coarse salt purchased in a quantity might be cheaper than any of the above items and when applied in a larger dosage would probably be equally effective.

All of the bushes in the above tests were Ribes rotundifolium. Similar tests will be used on Ribes cynosbati and skunk currants. Table showing detailed results of each chemical follows:

SOLUTION	DOSAGE	NUMBER BUSHES		INCHES LIVE STEM
		Treated	Sprouting	10-7-40
(Borax - 5 parts	1 oz.	11	0	0
(Sodium chlorate- 1 part	2 oz	11	0	0
Diesel Oil	2 oz.	11	0	0
Diesel Oil	4 oz.	11	0	0
Borax	1.3 oz.	11	2	.75
Borax	2.6 oz.	11	1	3.
Salt	2.2 oz.	11	1	.25
Salt	4.4 oz.	11	0	0
Used Crank Case Oil	2 oz.	11	11	118
Used Crank Case Oil	4 oz.	11	11	275
Ammonium thiocyanate	1 oz.	11	0	0
Ammonium thiocyanate	2 oz.	11	0	0
Check		11*	11	55
	Total	143		

* - Not treated

In each case when a bush was decapitated the stems were left lying on the ground. On October 7, 1940, of the original 143 tops, 116 were found. Of these, 16 or 13.8% had produced tip sprouts; a total of 36 sprouts were observed. This indicates the advisability of continuing the practice of hanging up bushes during eradication work.

VIKING CURRANTS

Viking currants are an immune or highly resistant variety discovered in Europe a few years ago.

Mr. Yost writes in his 1940 Annual Report: "Observations were continued during the year on Viking Currant bushes which were distributed throughout the State of Maryland several years ago. These bushes have now attained the size where they are producing a reasonable amount of fruit. The present indications are that they compare favorably with most of the commercial varieties or red currants. However, from a horticultural standpoint they do not appear to be superior to very many. Probably during the next year a definite decision on the part of the State officials will be made as to whether these bushes shall be made available to commercial nurseries for propagation and sale or whether they shall be destroyed, or the observations continued."

RIBES REGENERATION

At Bittinger, in the fall of 1939, Mr. J. C. Ball laid out a study plot in an open pine lot, averaging 200 trees about 52 years old per acre. The ribes had been removed previously from this lot, but were springing up thickly following a thinning. Prior to thinning the number of ribes bushes per acre was not large in this particular spot, although from the tract as a whole 208,503 bushes had been removed in three workings. The plot was a chain square (66' on a side) divided into 16 quarter-chain squares. The subplots contain 0.00625 acres or $6\frac{1}{4}$ milacres.

While no inspection of the plot was made in 1940 the results of the initial inspection are worthy of note. Mr. Ball's summary follows:

Total number of Ribes on plot	158
Total feet of live stem	51.3
Total number of bushes per acre	1580
Total feet of live stem per acre	513
Average size of bush	0.32 ft. or 3.8"

The number of the bushes per plot and the number of feet of live stem per plot is tabulated below by shade factor. This table shows how shade seems to influence the number of bushes springing up from seed, and the growth of these bushes. Shade above .6 seems to inhibit or retard the ribes seedling growth and points to the desirability, from a blister rust control standpoint, of keeping a white pine stand in ribes-bearing areas fully stocked, or at least heavily shaded.

Number of Bushes per plot					Feet of live stem per plot				
Shade* factor .4	Shade factor .5	Shade factor .6	Shade factor .7	Shade factor .8	Shade factor 0.4	Shade factor 0.5	Shade factor 0.6	Shade factor 0.7	Shade factor 0.8
	3	-	-	-	-	.1	-	-	0 -
-	-	1	0	-	-	-	.3	-	0 -
12	-	10	8	1	6.4	-	3.4	-	1 -
39	-	24	-	-	14.3	-	4.4	-	- -
-	-	28	-	-	-	-	11.3	-	- -
-	-	32	-		-	-	9.8	-	-

*1 equals complete shade.

PINE INFECTION STUDY PLOTS - GARRETT COUNTY, MARYLAND

The two pine infection study plots established in 1938 and described in Maryland's 1939 Annual Report were again observed and are being maintained. The one acre plot located on the Oakland-Crainesville Road near Toliver Run showed 100 per cent infection when the study was made in June 1940. 78.1 per cent of the trees were dead as of this date. The location of the trees which had died as well as of those which will probably die in the near future was marked by stakes bearing the number which was assigned to the tree. It is planned to continue observations on this plot if possible until all of the trees are dead, since comparatively little time will be required to observe the few remaining trees.

A study was also continued on the Deep Creek Lake plots and observation were made during the same month as for the above plot. As of the same date, 96.4 per cent of the trees were infected and 26.4 per cent were dead. The location of the dead trees was marked the same as on the above plot. It is planned to continue observations on this plot at least until all of the trees are infected and probably until a substantional percentage of them have died.

F I E L D S T U D I E S

TENNESSEE

RIBES REGENERATION STUDY PLOTS

Agent J. Wilburn Lane has started three Regeneration Study Plots in north-eastern Tennessee, given below as A, B and C.

A. Plot 1 - Carter County - five miles east of Roane Mountain established 9/9/39. Species - Ribes americanun (wild black currant) Shade was somewhat dense - 0.8, and this may have accounted for the complete lack of seedling growth after eradication, while good clean eradication may have accounted for non-sprouting from roots and crowns up to September 30, 1940. On the plot of 40 milacres (.04 acres) when worked there were 275 bushes (or at rate of 6875 bushes per acre) and 1146 feet of live stem (or at rate of 286,625 feet of live stem per acre).

B. Plot 1 - Greene County - Established May 7, 1940, on Greene Mountain in Cherokee National Forest.
Species - Ribes cynosbati. Shade 0.7; size of plot 60 milacres (or .06 acres).
Bushes pulled originally 494, per acre, 8233.
No. of ft. of live stem originally 2264, per acre 37733.
By June 4, 26 days after eradication, there were 25 bushes on the plot, 20 from sprouts, 4 seedlings and one missed bush.
The feet of live stem on the plot was 40.8, seven feet coming from sprouts one half foot from seedlings and 33.3 ft. from missed bush. In other words, within one month of eradication there were 33.3 ft. of live stem on .06 acre (or 680 feet per acre). Of this, 555 ft. per acre were from missed bushes. This indicates the desirability of a mop-up a few months after ribes eradication, if a regular eradication in May leaves as many feet of live stem per acre as in the fall. If only seedlings had come up in a month, the live stem per acre would have been but 8.3 feet.
This plot will again be studied in the fall of 1941.

C. Plot 2 - Greene County - Established May 14, 1940. Location - head of Jennings Creek on Cold Spring Mountain. Species - Ribes glandulosum - (skunk currants) - Size of plot 40 milacres (.04 acres) Shade 0.8
Bushes pulled originally 736, per acre 18,400
Feet of live stem " 5295, per acre 132,375.
By June 13, 13 days after eradication 19 bushes were found of sprout origin with 5.1 feet of live stem; the regrowth being at the rate of 475 per acre, with 127.5 feet of live stem. The plot will be inspected in the summer of 1941.

The two reports on the Greene County plots include excellent maps and directions on how to find the plots.

Table showing Data on Ribes Regeneration Study Plots

County	Plot No.	Size in milacre	Species of Ribes	Date begun	Original Data Number of Ribes	Original Data FLS Rm'vd	First examined Date	First examined No. Bushes found	First examined No. Feet L. S.
Carter	1	40	Americanum	8/8/39	275	1146	11/9/39	-	-
Greene	1	60	Cynosbati	5/7/40	494	2264	6/4/40	25	40.8
"	2	40	Glandulosum	5/14/40	736	5295	6/13/40	19	5.1

	First Examination Data Per Acre No. Bushes	First Examination Data Per Acre No. F. L. S.	Second Examination Date	Second Examination Number of bushes found	Second Examination No. Feet of live stem
Carter #1	-	-	9/30/40	-	- -
Greene #1	416	680	-	-	- -
Greene #2	475	127	-	-	- -

V I R G I N I A

RIBES REGENERATION IN SOUTHWESTERN VIRGINIA

In October 1936 several Ribes Study Plots were established in Grayson and Smyth counties, Virginia. Six of these were studied in September 1940 by Messrs. J. G. Luce, Jr., J. C. Ball and H. E. Yost.

A table summarizing the data follows:

Table Giving Data from Ribes Regeneration Study Plots in 1936 and 1940

	County	Pine Area Number	Elevation in feet	Size of Plots in acres	Species	Abundance in 1936 (on plot per acre)	Abundance in 1940 on plot (per acre)
A	Smyth	10	2,400	1/4	Cynosbati	440	340
B	"	11	2,200	1/4	"	1,280	276
C	"	25	2,300	1/4	"	236	20
D	"	37	2,200	1/4	"	396	268
E	Grayson	11	2,600	1/4	"	356	100
F	"	37	3,600	1/4	"	228	260

	No. Feet Live Stem Per Acre on plot		Origin of Live Stem found in 1940			Shade in 1936
	In 1936	In 1940	Crown sprouts (per ~~acre~~ cent)	Tip Sprouts (per ~~acre~~ cent)	Seedlings (per ~~acre~~ cent)	
A	-	4,939	63	4	33	Fairly open, blue grass sod, briars and ribes on area
B	2,000	240	67	14	19	Open woods, closed canopy, birch and hemlock
C	620	13.6	26	2	62	Dense hardwoods
D	792	582	23	13	64	Closed canopy
E	736	69	1	-	99	Closed canopy
F	2,700	1,415	39	5	56	Dense shade in afternoon - none in morning

1. The most obvious conclusion drawn from the plots was that ribes was reproducing in such quantities in most areas worked four years previously that they should be reworked in 1941.

2. A great many of the bushes living in 1940 sprang from crown sprouts. This shows a lack of care in eradication in 1936 and this fault must be corrected in future eradication work.

3. There was a considerable growth from tip sprouts; i. e., from sprouts sprung from layered tips. This had not been noticed much up to 1940.

4. Seedling growth measured in live stem in 1940 was represented by the following per cent 19, 33, 56, 62, 64 and 99. In only two plots was the per cent of live stem from crown sprouts in 1940 over 50. These per cents were 63 and 67.

5. Two of the plots - Smyth County, No. 25 and Grayson County No. 11 showed the effect of heavy shade, there being after four years only 18.6 feet of live stem in the former and 69 feet in the latter.

A study of the plots showed the necessity of marking them well, of making good maps and of writing a good description on how to get to the plots.

B. LOCATION, IDENTIFICATION AND DESCRIPTION OF STUDY PLOTS

The study plots observed in Grayson and Smyth counties were difficult to locate and well exemplified the fact that the boundaries of study plots can not be too plainly marked and that trail signs and instructions necessary to locate a plot can hardly be too detailed. It is much better to spend two minutes reading detailed instructions than to spend two hours searching for a plot that lack of a word or a sentence renders impossible to find.

Conclusions drawn relative to the selection of plots, their markings and description of their location on the Data Plot Sheets and pine area maps follow:

1. Selection of plots

a. Plots selected should be readily accessible - not over ten minutes walk from an automobile road.

b. Freak sites should be avoided. Plots which represent normal ribes sites should be chosen. In so far as possible plots should be located away from dwellings, paths, used pastures, and other places frequented by animals and human beings.

c. Plots should represent a cross-section of all normal ribes cites; for example:- northern and southern slopes, rock drifts, moist and dry ground, sunlit and shaded soil, exposed and sheltered sites, heavy or light underbrush, etc.

d. Plots should be distributed as evenly over an area as possible when such distribution does not conflict with accessibility or other factors.

2. Markings for Plots.

a. The trail leading from the car parking spot to the Study Plot should be lightly spotted with paint.

b. All Markings should be large enough to be readily seen from a distance. Over a period of years yellow paint is more readily discernible than white, since the latter fades quicker and blends more readily with the whitish bark of trees or the worn surfaces of rocks.

c. The plot corner trees, posts or rocks should all be marked with the symbol $\frac{BRC}{SP}$ and two yellow bands about three inches in diameter should be painted around them; one, breast high, the other at the base. Cross marks should be used to denote the boundary lines - not circles or spots, as these might be confused with control boundaries. Marks on the boundary lines should be placed very close together, each tree or rock thereon being painted with a cross on the sides facing the corner posts.

d. The boundary lines on study plots should always run north, south, east and west.

e. Heavy brush bordering the boundary lines should be cut out; care being taken, however, that no brush within the plot itself is cut or that such cuttings do not allow undue light to reach the plot.

3. Location Directions

a. Whereverpossible study plots should be shown on pine area or grid maps by means of a small square with the letters "SP" inside. Location description should give mileage to all road intersections, road numbers, right and left turns (in case road numbers are changed in the future) and should end with explicit directions for finding the plot after one leaves the car parking space.

b. In all cases a detailed plot location map should be made for each plot established and studied. The plot location map should have a scale large enough (preferably 4" to the mile) so topographic details necessary to the speedy location of the plot will not be small and crowded. All important features such as rivers, creeks, roads, trails, ridges, home sites, etc, should be accurately plotted and properly named. The plot itself must be accurately plotted on the location map and, as stated under Paragraph 3 (a), should be shown on pine area or grid maps so the relation of the plot to the area as a whole can be readily determined. (See sample plot location map and location description which follows:)

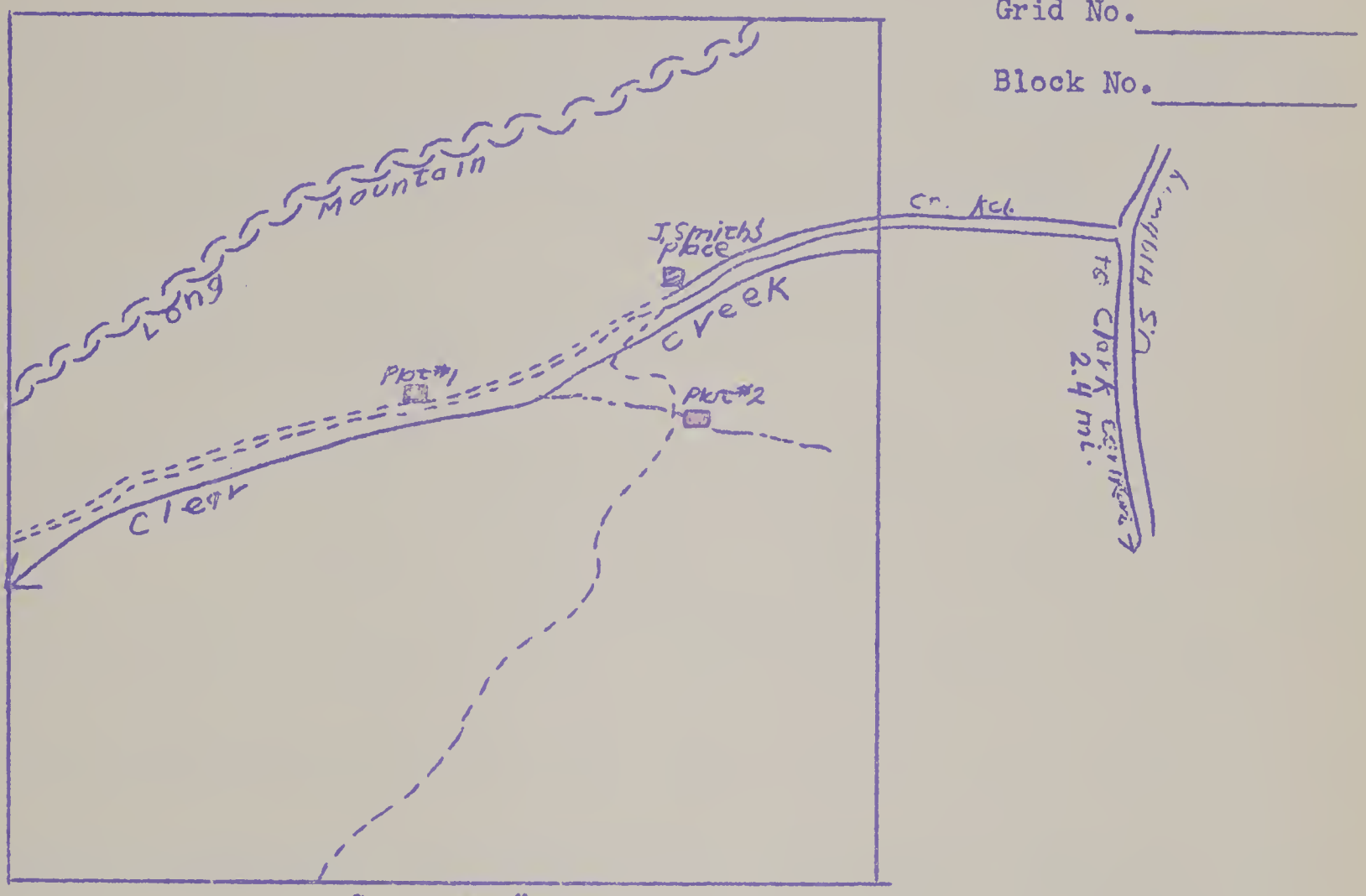
SAMPLE

Study Plot Location Map for Plots Nos. 1 & 2

State: _____ County: _____ Quad: _____ Pine Area No. _____

Grid No. _____

Block No. _____



Scale - 4" equals 1 mile

Plot Location:

Plot No. 1 was established in 1940 and is found by proceeding North on U. S. Highway No. _____ 2.4 miles from Clark Corners, and turning east on County Road No. _____. Proceed on County Road 1.2 miles, where gravel road ends at J. Smith's house. Walk down old wagon road 23 chains. Two large yellow bands on large hemlock mark plot location. Southeast corner of plot is 5-foot post painted with two wide yellow bands with plot description scribed thereon. Southeast corner is ½ chain due north of old hemlock. Plot boundary is well defined with yellow painted cross marks. All corner posts are marked with two wide yellow bands.

Plot No. 2 was also established in 1940 and is located within same area and grid. From J. Smith's house take well defined trail leading southwest towards Clear Creek. After crossing Clear Creek walk up trail 13 chains until shallow dry ravine is reached. Northwest corner of plot is 5-foot post ¼ chain east of trail and set in center of ravine. Post is painted with two yellow bands and plot boundary is well defined. The boundaries of Plots 1 and 2 run in cardinal directions.

RIBES REGENERATION IN CENTRAL WESTERN VIRGINIA

The following report concerns the half acre study plot in the Peter Seay tract in Augusta County, Virginia, details concerning which appeared in our Annual Report for 1938 on pages 93.1 to 93.4, and in our Annual Report for 1939 on pages 29 and 30. This area was logged off in the winter of 1934-1935, 8,000 board feet per acre consisting largely of white pine, being removed.

This area was first worked extensively with adjacent national forest land by the Shenandoah National Forest in 1929; then intensively by PWA in 1934, and mopped up after logging by WPA in 1936. The plot has been studied for four successive years, beginning with 1937, data being taken of height and feet of live stem for each bush. The last study was on September 4, 1940. A detailed table concerning ribes growth on this plot will be found on a succeeding page.

A second plot in Augusta County near Ramseys Draft was studied in September 1940. This plot was largely in the shade.

Table Giving Data on Ribes Regeneration Study Plots in Augusta County

Area	Location	Elevation in feet	Year Started	Size of Plots in acres	Species	Abundance per acre in 1936	Abundance per acre in 1940
#2 A. Peter Seay tract	North River	2,500	1936	½	cynosbati	Not known	48
B. W. of W. Augusta	Ramseys Draft	2,000	1937	¼	"	264	4

Number F. L. S. Per Acre Initially	Number F. L. S. Per Acre In 1940	Origin of Live Stem found in 1940: Per cent of Crown sprouts	Per cent of old bushes	Per cent of seedlings	Shade
A Not given	296	12.5	12.7	74.8	60% in full sun
B ~~1X088~~ 2176	2	-	-	100-	Very dense

Number F. L. S. Per Acre on Peter Seay Plot at end of season

End of Year	Number F. L. S. Per Acre
1937	21
1938	47
1939	121
1940	296

In May 1940 on the Peter Seay Plot several bushes were in flower, while others were bearing fruit. In September 1940, blister rust was found on four bushes including one in the shade, and three in full sun. At this latter date all infected bushes were pulled, as well as all bushes with 24 inches or more of live stem.

This left eight bushes growing on the plot in October 1940, all being marked.

CONCLUSIONS DRAWN FROM THE 4-YEAR STUDY

1. In ribes-bearing areas in infected regions where a cutting has been carried on and light conditions changed, the period of return for rework should be shortened from five years to three years. (At the end of three years there were 120 feet of live stem per acre on the plot)

2. Seedlings sprung up not only in the first year or two after removal of old bushes, but continue to spring up for four years at least.

(Of the 24 bushes living in 1940 on the plot, probably 19 were of seedling origin; 12 in 1937, two in 1938, two in 1937 and three in 1940.)

3. Since seed were borne on a number of bushes in the fourth year, the bushes on this type of area should be destroyed in the third year, or before fruit has formed in the fourth year, in order to decrease and eventually eliminate the crop of seedlings.

COUNTY: Augusta
STATE : Virginia

RIBES STUDY PLOT, PINE AREA NO. 2
PETER SEAY TRACT

QUADRANGLE: Staunton
DATE: September 4, 1940

No.	Direction from stump	Distance from stum Chains	Links	Live Stem in inches 9/4/40	Height on 9/4/40	Height growth in 1940	Blister Rust present	Pulled	Degree of shade at time of count 12:30 to 2 p. m.	Probable origin with date
1(1)	N 10 E	1	23	211"	35"	4"	yes	yes	shade	missed bush
2(1)	N 15 E	1	39	16"	10"	2.5"	no	no	shade	" "
3	S 68 E		81	69"	22"	2.5"	no	yes	full sun	seedlings 1937
4(1)	S 66 E		82	128"	28"	13"	no	yes	full sun	sprout growth '37
5(1	S 65 E		83	38"	20.5"	4.5"	no	yes	full sun	" " "
6	S 65 E		82	246"	24"	2"	yes	yes	full sun	seedlings 1937
7	S 62 E		83	200"	27"	3"	yes	yes	full sun	" "
8	S 55 E		7	105"	18"	4"	yes	yes	full sun	" "
9	S 40 E		58	53"	19"	13"	no	yes	full sun	" "
10	S 40 E		64	123"	38"	13"	no	yes	full sun	" "
11	S 38 E		85	22"	9"	6"	no	no	full sun	" "
12	S 35 E		46	152"	26"	15.5"	no	yes	full sun	" "
13	S 28 E		43	28"	19"	5"	no	yes	full sun	" "
14	S 4 E		55	99"	12"	2"(2)	no	yes	full sun	" "
15(1)	S 33 W		25	57"	17"	0"	no	yes	much shade	" "
16	S 84 W		54	31"	12"	4"(2)	no	yes	full shade	" "
17	N 86 W		42	14"	8"	0"(2)	no	no	full shade	" "
18(3)	N 5 E	1	33	23"	11"	3"(2)	no	no	full sun	seedlings '38
19(3)	S 43 E		59	38"	18"	10"	no	yes	full sun	" '39
20(4)	S 65 E		79	6.5"	6.5"	new	no	no	shade	" '40
21(4)	S 64 E		82	7"	7"	new	no	no	full sun	" '40
22(4)	S 46 E		46	12"	8"	new	no	no	full sun	" '39
23(4)	S 51 E		47	47"	16"	new	no	yes	full sun	" '38
24(4)	N 39 W		35	3"	3"	new	no	no	full shade	" '40
	Total		1787	or 148' on $\frac{1}{2}$ acre or 296 ft. live stem per acre						

(1) No. 1 and 2 were probably missed bushes in 1936; nos. 4, 5 and 15 which had more than 6 inches of growth in 1937 were probably of sprout origin; all of the others seemed to be seedlings
(2) Probably broken by sleet or eaten by deer
(3) No. 18 was a seedling of 1938 origin; no. 19 was a seedling of 1939 origin
(4) Bushes 20 - 24 had never been observed in previous years

STUDY PLOT IN INFECTED WHITE PINE STAND

Atop the Shenandoah Mountain 2.9 miles up the Reddish Knob road, north of its junction with the North River road, on the left side of the road just beyond the West Virginia overlook, a blister rust infection study plot, one acre in extent, was laid out on November 22, 1938, by Agent G. C. Cramer and two WPA crewmen, under the supervision of State Leader Yost of Maryland.

This area lies in the Dry River District of the George Washington National Forest in Augusta County, Virginia. The western side bordered the Reddish Knob road. The plot was marked off by stout posts driven in the corners and painted white. The area was then sub-divided into ten 1/10 acre squares marked off by string and corner posts. From east to west all posts were lettered A, B, C, or D. From south to north the posts were numbered 0, 1, 2, 3 or 4. The plot was of irregular dimensions, as two of the 1/10 acre squares were placed in one row and four of the squares in each of the two adjoining rows. This irregular shape was used, as the largest number of diseased trees could be obtained thereby.

The plot was laid out on a flat, narrow ridge-top and spanned the width of the ridge. It lay at an elevation of approximately 3500 feet. The forest cover was mainly of white pine and hardwoods with the white pine irregularly scattered over the plot in a 15% stand. In age the white pine varied from two to 25 years. Fourteen trees were free, five dominante, five intermediate, and six suppressed. The undergrowth consisted of various shrubs and laurel. The latter was quite thick on the row containing two squares.

A map of the area was prepared on which the exact location of all ribes and pine on the study plot were shown. Each pine tree was given a square number for identification purposes, such as OA5, denoting that this was pine under 5 in the first or southwest square of the area. Each tree and canker were shown on BR-56, the data sheet for Pine Infection Study, and each tree was numbered with an aluminum tag affixed thereto with a copper nail. These tags were $2\frac{1}{2} \times \frac{1}{2}$ inches and carried the square and tree number, as AO-18 USDA. The cankers on the trees in the case of the larger twigs and branches were marked with the celluloid rings, such as are placed on the legs of chickens. On the smaller twigs heavy string was lightly tied above the canker to mark its location. (It is believed that some method should be devised whereby each canker can be tagged with a marker showing the supposed year of its origin since there is some confusion every year as to the yearly classification of cankers on a particular tree.) This study plot was found to have been located at a point which is too remote and inaccessible, due to treacherous ice-covered roads in the winter time which prevent one reaching it without some danger. In the future such study plots will be located when possible near convenient routes and at lower elevations. One or more similar study plots are proposed for 1941. If possible, study plots should be laid out and inspected only in the spring when the blister rust is in its aecial stage and can be more readily spotted and identified.

STUDY PLOT
IN
INFECTED WHITE PINE STAND
REDDISH KNOB DRIVE

NEAR WEST VIRGINIA OVERLOOK

	1938	1939	1940	Increase
Number of white pines	99	99	99	-0-
Number infected	22	36	44	8
Per cent infected	22.2	36.36	44.14	7.78
Cankers				
Branch	47	94	120	25
Stem	0	-0-	1	1
Average No. of Cankers per tree infected	2.14	2.19	2.75	.56
Average No. of cankers per tree on plot	.47	.95	1.22	.27

Canker age group

1932		1	1	-0-
1933	3	2	1	1
1934	13	11	16	5
1935	14	17	18	1
1936	16	25	23	2
1937	1	20	33	13
1938		17	27	10
1939		1	2	1
1940	-	-0-	-0-	-0-
Total	47	94	121	27

Number of ribes on plot	20	20	20	-0-
Number of ribes-free grids	4	4	-0-	-0-
Average No. Ribes per acre	20	20	-0-	-0-
Man-hours spent on plot	16	24	10	-0-

DISCOVERY OF NUMEROUS ESCAPED RIBES RECLINATA (CULTIVATED GOOSEBERRY)

In Clarke County in northern Virginia at the estate known as the Tulleries which lies adjacent to the University of Virginia-owned Blandy Experiment Station and mid-way between Boyce and White Post, Virginia numerous escaped cultivated gooseberries Ribes reclinata and a few red currants Ribes vulgare were found on September 24, 1940. These ribes were growing within a white pine area, and in the adjoining hardwood forest. In the garden of the Tulleries there were five Ribes nigrum heavily infected with the blister rust and about 75 Ribes vulgare that were apparently free of the disease. No blister rust was observed on the escaped ribes pulled later. Ribes reclinata and Ribes vulgare.

The white pine area of eight acres consisted of a $\frac{1}{4}$ mile single row of pines and a $\frac{1}{4}$ mile double row of pines along the estate road. The double row of pines led into a hardwood forest where about four acres of white pine grow. All of the pine was planted about 30 years ago. Many of the forest pines were dead from shading, but an average of 350 trees per acre remained. These trees ranged from 4" to 12" in diameter. Virtually no reproduction was observed. The elevation of the area was quite low, being approximately 600 feet.

The Ribes reclinata had apparently spread from a farm house whose abandoned site was just across the road from the pine area, for at this location 25 large clumps of gooseberries were eradicated. Doubtless the ribes had been spread through birds eating their seeds. The escaped ribes were more or less concentrated in large, dense patches covering from 400 to 2,500 square feet of ground. All the escaped bushes were pulled within a 10-acre boundary. In height the ribes varied from one to four feet. Reproduction was excellent as thousands of the stems were from 12 to 18 inches in height. It appeared that the gooseberries had to a large extent reproduced themselves by layering as this condition was common to all patches located.

The soil on which the ribes had thrived so vigorously was a deep, rich clay; fairly moist. Although the area was worked in mid-October and most of the leaves had dropped, 18,118 ribes were eradicated. Fifteen of these were Ribes vulgare; the rest Ribes reclinata.

Despite several personal visits and letters, the owners refused permission to remove the infected European black currant bushes in the garden.

F I E L D S T U D I E S

WEST VIRGINIA

RIBES REGENERATION STUDY PLOT

A study plot of 100 milacres was established in Hardy County in June 1940. This plot was included in the area to be crew-worked in lot No. 43, Orkney Springs, located in Whetzel Hollow near Lost River. The site has an elevation of approximately 1800 feet and is located at the foot of a slope facing northwest. It is very rocky and has an average shade density of approximately .4 to .5.

The purpose of the plot was to obtain information regarding the regeneration of ribes in a favorable site for their growth and reproduction, and to ascertain the effectiveness of hand eradication methods on a rocky site where difficulty is experienced in removing all the larger roots from among the rocks. The method of accomplishing the removal of the bushes initially was to have the plot covered by regular eradication crews as part of the initial working of the control area after a preliminary study had been made of the ribes "population" on the plot. The members of the crew were unaware that any test of their work was being made since all evidence of the preliminary study had been removed prior to eradication.

The plot was laid out in a square one chain in length on each side and divided into a hundred square milacre plots by gridding the area with parallel string lines ten links apart. A diagram of the plot was then made (scale 5 inches equal 1 chain), and the number and location of ribes growing in each milacre plot was indicated on this diagram by the use of small circles. The preliminary survey of the plot revealed that there were 545 ribes bushes scattered over the 1/10 acre plot before any eradication work was done. All of these bushes were of one species, Ribes rotundifolium. The area was eradicated on June 18, 1940. At the time of eradication the ground was still wet as a result of recent rains, and showers fell for the following few days after the eradication had been completed. Conditions therefore were ideal for regeneration of the ribes growth and germination of the seed.

The first inspection of this area was made on September 13, 1940. Only two bushes were found on the area at that time, both of which were bushes that had been missed by the eradication crew. One of these bushes was four feet high and had in it about 18 feet of live stem. The other bush had less than a foot of live stem and at the time of the initial working would have been a seedling. No sprouting was observed.

INFECTION CONDITIONS

D E L A W A R E

Although blister rust control work was carried on in Delaware from January 1 to June 30, 1940, no new infection centers were reported.

Blister Rust infections have been found in past years on ribes in the two northern counties, Kent and New Castle.

M A R Y L A N D

No infection was found in new counties in 1940. By the end of 1940 infections had been found in ten counties, viz: Allegany, Baltimore, Calvert, Carroll, Frederick, Garrett, Harford, Montgomery, Prince George and Washington. Scouting for the blister rust was however carried on in Anne Arundel, Charles, Howard and St. Marys counties, but no rust was found.

Mr. Yost writes concerning the blister rust known to be present in the four western counties.

Allegany County: Considerable infection occurred in the vicinity of Fifteen Mile Creek before control work was begun, but the progress of this infection appears to have been definitely stopped. Considerable infection is found on isolated trees and inferior stands in the western end of the county where no control work has been done.

Frederick County: A few infected white pines were found in the vicinity of Wolfeville when eradication work was begun in the fall of 1935. The degree of infection in the protected pine stands of this county would probably not exceed 1 or 2 per cent of the trees and is apparently being held in check.

Garrett County: It is well established throughout practically all of the county and has apparently been held in check in those pine stands where eradication work has been carried on. There is sufficient infection present on unprotected stands and isolated trees to indicate that it is only a matter of time until practically all of the white pine in the county will be killed by the rust except those areas which receive protection.

Washington County: Very little infection has been found on pine in Washington County. The pine infection found in the vicinity of Pen-Mar has apparently spread southward from old infections nearby in Pennsylvania. Control work was apparently begun in the western end of Washington County before the rust had reached this section, and to date no infection has been found on pine in this area.

As indicated on the accompanying map infection on ribes have been found in all but four counties west of the Chesapeake Bay. This probably is the result of aecia spores being carried southward and eastward from the infection in Pennsylvania and the western counties during seasons favorable for the long distance spread.

MARYLAND, 1933

Map Showing Year of Earliest Infection found on White Pine and Ribes and Approximate Date of Oldest Known Pine Infection.

Year Pine Infection first found - black

Year Ribes Infection first found - red

Approximate date of Oldest Infection - green

GARRETT 1934 1933 1924

ALLEGANY 1934 1931 1924

WASHINGTON 1931 1931 1928

FREDERICK 1935 1935 1930

CARROLL 1937

BALTIMORE 1937

HARFORD 1937

CECIL

MONTGOMERY 1936 1934 1934

HOWARD

ANNE ARUNDEL

KENT

QUEEN ANNES

CAROLINE

TALBOT

D.C.

PRINCE GEORGES 1939

CHARLES

CALVERT 1939

ST. MARYS

DORCHESTER

WICOMICO

SOMERSET

WORCESTER

SCALE STATUTE MILES 0 10 20 30 40

79 30′ 78 30 77 30′ 76 30′

40 30 39 38

U.S. DEPARTMENT OF AGRICULTURE

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V I R G I N I A

A total of 20 new infections centers were located in the counties of Augusta (2), Bath (2), Clarke (2), Highland (9), Page (5), and Rockingham (3).

The only infections reported on cultivated ribes were in Clarke County, where the blister rust was found for the first time. The only infection on white pine in Clarke County was reported in 1910.

To date the blister rust has been found on ribes in all the 16 known infected counties and on pine in 8 counties. No extensive scouting for blister rust infection was done in 1940 due to the lack of funds. However, Mr. J. W. Showalter, superintendent on the non-federal project, eradicated ribes in the Pedlar River and Irish Creek watersheds in the George Washington National Forest without observing any infections.

Superintendent Cramer carried on ribes eradication in Bath County without finding any infection on white pine. Also, in Bath County, the Wilson's Creek and Mares Run watersheds were fruitlessly checked for infection. Infection on ribes in Bath County was first found in 1935.

While on nursery sanitation, Superintendent Luce, checked cultivated bushes and white pine at and around Alexandria, Arlington Cemetery, Westcotts Nursery and Forman's Nursery. No infections were found in Fairfax County, in which these places are located.

It is believed that 1940 may have been a good year for blister rust to spread, but due to the large number of cankers cut out under the canker elimination work in past winters, the rapid spread of the bliste rust has been retarded, greatly.

NEW BLISTER RUST INFECTION CENTERS FOUND IN VIRGINIA 1940

County	Area No.	Ownership	Infection on Ribes: No. Infected	Infection on Ribes: Number Examined	Infection on White Pine: Species	Infection on White Pine: Number Infected	Infection on White Pine: Number Examined	Infection on White Pine: Percent Infected
Augusta	Grid 31EE					11	35	31
Bath	*2F	Marshalls Draft	6	75	R. cynosbati	"	"	"
	*3F	Lillards Draft	2	15	R. cynosbati	"	"	"
Clarke	1	Fairfield Farm	15	32	R. rcolinata & R. vulgare	"	"	"
	6	The Tulleries	7	77	R. nigrum	"	"	"
Highland		Ervin Area	"	"	"	35	100	35
	*2F	Gwinn Hollow	"	"	"	8	50	12
	*38F	Shears Ridge	"	"	"	4	50	8
	18	Private	"	"	"	19	60	31
	23	Private	"	"	"	37	150	24
	67	J. M. Simmons	"	"	"	3	20	15
	30	Private	"	"	"	12	50	24
	81	Private	"	"	"	25	50	50
Grid	37BB	Shaws Fork	13	50	R. cynosbati	"	"	"

*Forest Service Land

NEW BLISTER RUST INFECTION CENTERS FOUND IN VIRGINIA 1940 (continued)

County	Area No.	Ownership	Infection on Ribes			Infection on White Pine		
			Number Infected	Number Examined	Species	Number Infected	Number Examined	Per cent infected
Page	#18-P	Meadows School	-	-	-	1	50	2
	#19-P	Peters Point	-	-	-	2	50	4
	176	Private	-	-	-	1	30	3
Rockingham	21F	Skidmore Fork	-	-	-	2	10	20
	23G	Millers Springs R.	-	-	-	2	25	8
	23H	Sand Run	-	-	-	4	15	26

Park Land

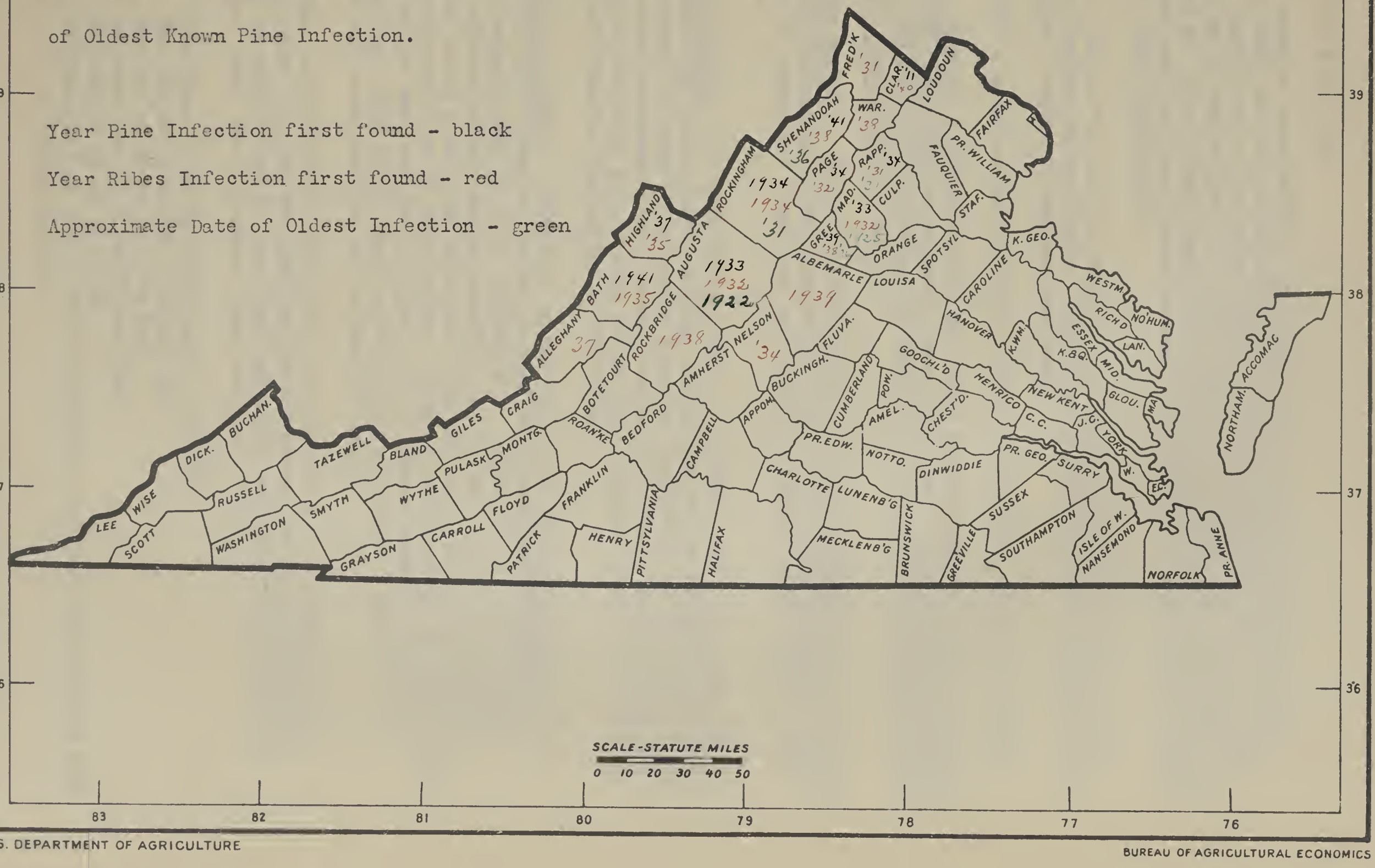
A map shpwing the range of blister rust in Virginia and a list of the individual infections follow:

Map Showing Year of Earliest Infection found on White Pine and Ribes and Approximate Date of Oldest Known Pine Infection.

Year Pine Infection first found - black

Year Ribes Infection first found - red

Approximate Date of Oldest Infection - green



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W E S T V I R G I N I A

Five counties were added to the known range of blister rust in West Virginia in 1940, the rust being found on ribes in Grant, Hampshire, Mineral and Morgan counties on a trip from August 6 to 9th by Messrs. H. E. Yost and J. C Ball, and on white pine in Morgan County by the same men. On August 14, Mr. Yost and Mr. Ross B. Mellinger, Forester of the Soil Conservation Service, found blister rust on Ribes grossularia at an elevation of 450 feet near Cedar Grove School near Hedgesville.

All of the above infected counties lie in the Panhandle region in the northeastern portion of the State. Infections probably spread southward from the established centers in western Maryland.

Mr. Ball's notes on the infections in the first four counties follows:

Grant County: Light infection was found showing both uredinia and telia on Ribes rotundifolium at Henry, West Virginia. Rust on Ribes cynosbati found one half mile southwest of Bayard in the Oakland Quadrangle and on Ribes rotundifolium at Henry.

"Mineral County: Found light infection on Ribes cynosbati on south side of road through Short Gap almost half mile down Knobby Mountain. Examined about 20 bushes and found one only lightly infected with uredinia and telia.

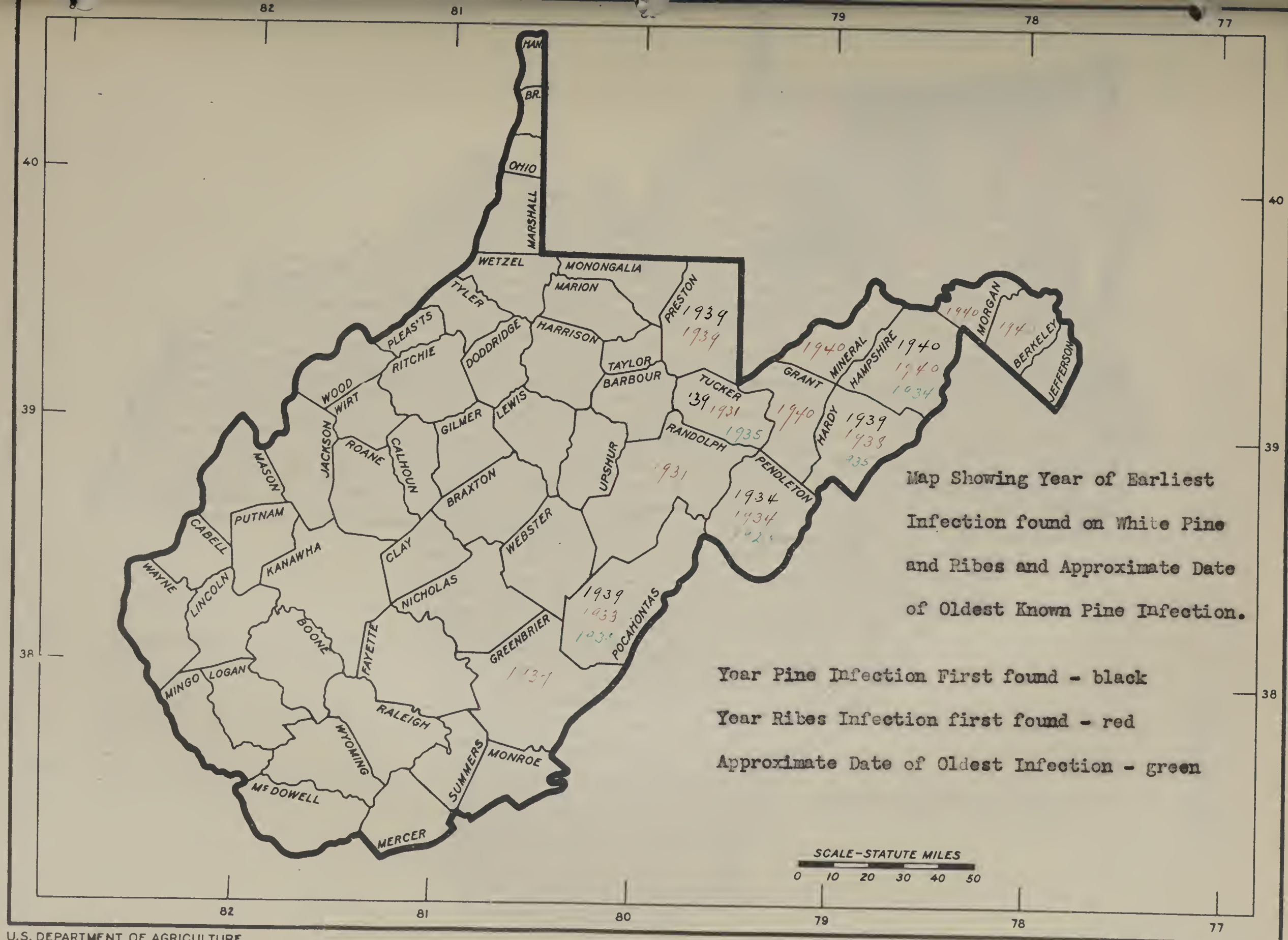
Morgan County: No wild ribes found on survey. Very light infection, uredinia and telia, found on large cultivated yellow flowering currants, (R. aureum) at homesite of Aaron Rosecher located about two miles north of Stokes crossroads along branch running into Sleepy Creek. Examined young native white pine within two to three hundred feet of cultivated bush but found no indication of infection.

Hampshire County: Infection on six out of 50 Ribes cynosbati and on one white pine found on north slope of Mill Creek Mountain Gap at Mechanicsburg south of U. S. Highway 50. Infection on ribes light, four infected bushes showing uredinia and telia. Out of about 15 to 20 young white pine trees examined, only one was found to be cankered. This appeared to be of 1934 origin. From all indications the white pine noted on the west and north slopes of Mill Creek Mountain is worth protecting. Wild ribes seem to be fairly distributed along the lower slopes but concentrations are evidently light."

Numerous infections on white pine and ribes were also found in Hardy County, from June 7 to October 1940 by agent McKeever and his foremen and scouts. It is interesting to note that infection was found by so many men, viz, C. Foltz, Ervin See, Clarence Teets and Clyde Kohne.

Pine infections in Hardy County are as follows:

One out of 20 trees at Kimsey Run
One out of 50 at Cullers Run
Thirteen out of 75 at Kimsey Run
Six out of 60 at Mill Gap
Eighteen out of 100 at Flattop Mountain and four out of 15 in Area 43 Orkney Springs.



Map Showing Year of Earliest Infection found on White Pine and Ribes and Approximate Date of Oldest Known Pine Infection.

Year Pine Infection First found - black

Year Ribes Infection first found - red

Approximate Date of Oldest Infection - green

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Map of the Southern Appalachian States
Showing Counties In Which Infections Have Been Found Through 1940

LEGEND

Infections found prior to 1930

Infections found in 1930

Infections found in 1940

SOUTHERN APPALACHIAN STATES

INFORMATIONAL ACTIVITIES

INFORMATIONAL ACTIVITIES

DELAWARE

In June, Mr. Pufahl wrote that he had heard from several persons that a brief talk on blister rust control had been given over the radio several times by the State Agricultural Department.

The work was suspended during July 1940. During the first half of the year three newspaper articles were published by the State Plant Pathologist and State Forester; 163 initial interviews were made; 106 follow-up calls and 68 publications were distributed.

The interviews consisted almost entirely of contacting ribes owners during eradication work. Plans were underway for educational exhibits at fairs, farm shows, flower shows, etc., during the year, but the suspension of the work made this impossible.

GEORGIA

In cooperation with the U. S. Forest Service and Gilmer County Fire Protective Association an exhibit was arranged for the Gilmer County Fair at Ellijay, Georgia. Also blister rust film was given two showings each night of this fair with large attendance and much interest.

Through the cooperation of county agents, pamphlets were distributed at the Hall County Fair at Gainesville, the Fannin County Fair at Blue Ridge, and the Pickens County Fair at Jasper.

The State Bureau of Entomology carried blister rust control as a headline on their permanent exhibit at the State Capitol at Atlanta.

We find that a large number of people seem to have become timber-conscious during the last twelve months and more interest in blister rust control by the public is the result.

Blister Rust Film Strip This technicolor film of approximately one thousand feet was made by the State Department of Entomology and together with projector and screen is furnished to us for exhibit and educational

purposes. This film had a showing time of about thirty-five minutes and is followed by other film on Entomology, such as the Japanese beetle, etc., in order to make complete showing of fifty to sixty minutes.

All scenes of blister rust control were made in Georgia with exceptions of that part showing disease, which was made in Virginia and Maryland. This film was not released for public showing until the last of August 1940. It was received with much interest by the public and plans are in progress to use this film very extensively during the coming year.

Showings On August 27, 1940, to Wild Life Camp, 4-H Club. Selected members from over the State,assembled at Valdosta, Georgia with an attendance of 150. The film was shown by Mr. Milledge Murphey.

On September 16, 17, 18, 19 at the Gilmer County Fair, Ellijay, Georgia; two shows each night with an attendance of 705.

On September 23, to Mexican Fruit Fly Control workers, Harlington, Texas. Inspectors on Fruit Fly Control and inspectors and members of other government agencies, their wives and guests, with an attendance of 100. Film shown by Mr. M. S. Yeomans.

On September 27, at Pine Mountain Park, Georgia to a ranger meeting attended by U. S. Forest Service attachees. Among those present were 16 rangers, 7 TPO secretaries and field supervisors. Also all district forester, the state forester, assistant state forester in charge of fire protection, two assistant district foresters, three technical assistants, and their guests; attendance 75. Film shown by Mr. Milledge Murphey.

On October 19, to the general public, Murray County Court House, Chatsworth, Georgia, attendance 267.

On November 13 to Blister Rust Control Office in Dahlonega, Georgia, to an audience of the following men, Professor Durham Anthony of North Georgia College, Mr. Hoke McGee, member of faculty, Lumpkin County High School,

Mr. David Passmore of the Soil Conservation Service, County Agent W. G. Owens, and others. Attendance 14.

On November 29, 1940 at County Court House, Fannin County, Blue Ridge, Georgia, District Ranger Ennis and other persons from U. S. Forest Service and the public attendance 33.

On November 30, 1940 at High School Auditorium in Jasper, Pickens County, Georgia, to the general public; attendance 251.

Total attendance blister rust film all showings, 1,630.

Reported by W. V. Zimmer

Display Frame

A large display frame was made holding a number of enlarged colored positives of blister rust control in Georgia, with the cankers from Maryland and Virginia. This frame was fitted so that electric lights shown on the pictures.

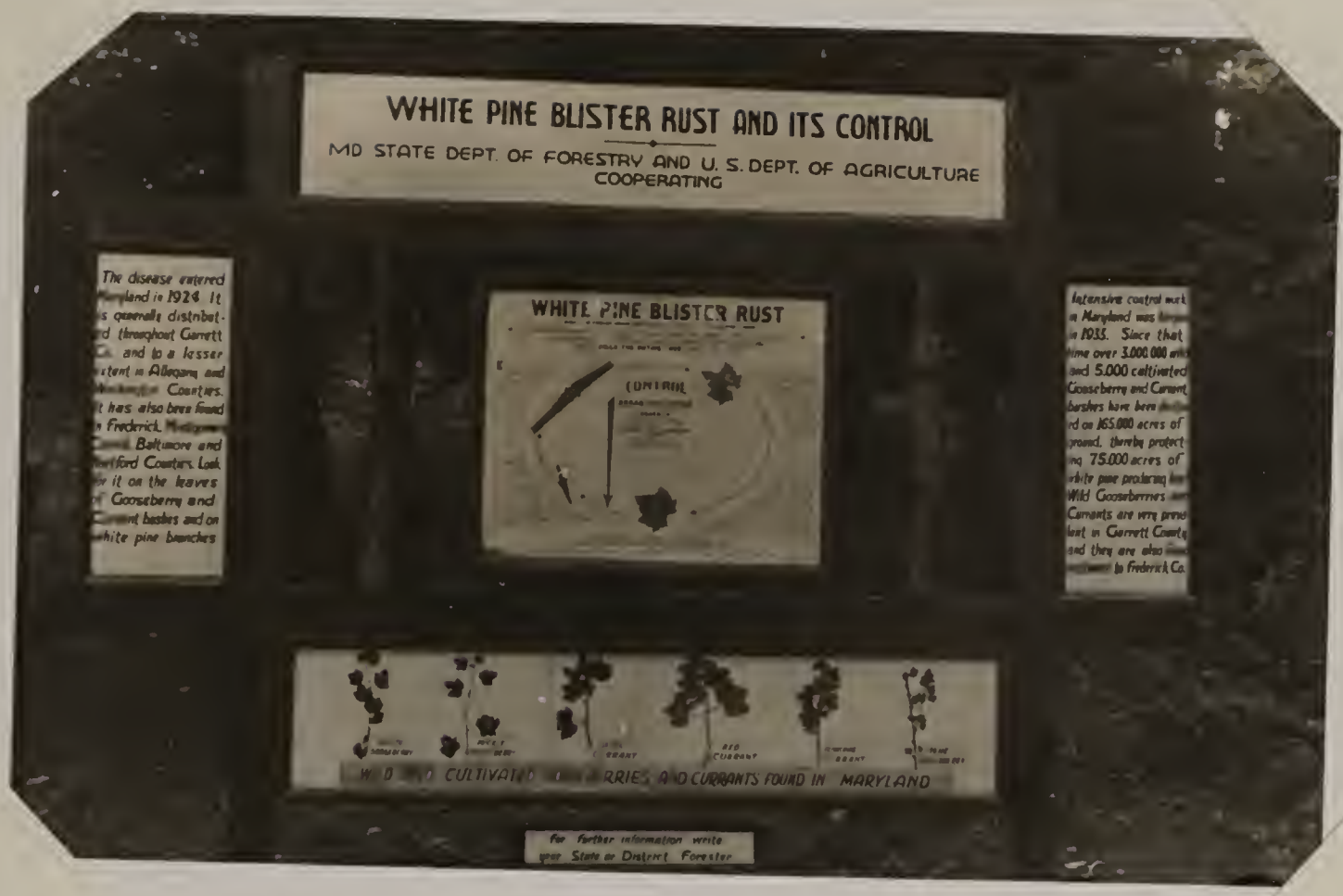
This frame was displayed in centers where the motion picture film was to be shown.

MARYLAND

Mr. H. E. Yost prepared a popular bulletin on the blister rust and its control. This manuscript has been turned over to the former State Plant Pathologist Professor, C. R. Temple for editing.

Mr. Yost also prepared a circular letter, entitled "Factors to Consider in the Planting of White Pine in Maryland, With Particular Reference to the White Pine Blister Rust." Several hundred copies of this letter will be distributed to state forest offices and to those interested in planting white pines.

Exhibits Only one permanent exhibit was maintained during the year, this was at the Washington Monument State Park on South Mountain which is visited annually by thousands of people, not only from Maryland but from



Type of outdoor exhibit used in Maryland for the past three years. Erected at much frequented places they are seen by thousands of persons annually.
Md. Roll 51, 15-26 Sept. 1938

F - 3.1

adjacent states. (Parenthetically this monument was put up by returning Maryland soldiers after the Revolution, and is reported to be the first mounment erected to George Washington).

An educational exhibit on white pine blister rust was set up at a community farm show at Grantsville in Garrett County, sponsored by the Farm Security Administration. The show was held in their office on November 7 to 9. The attendance was estimated at 500 persons.

Mr. Yost submitted an excellent article which was published in the Maryland Evening Times at Cumberland on July 11 and in the Mountain Democrat of Oakland on July 11, on the results of a study of a one acre infection plot. The article was headed "White Pine Blister Rust Rapidly Killing Pine in Unprotected Areas of Garrett County. Detailed studies on plots show 100 per cent infection and 78.1 per cent killed in ten year period."

NORTH CAROLINA

On February 13 Agent Whitman gave a colored slide, talk and movie strip demonstration to the biology class students in Lees McRae College at Banner Elk. The meeting was received very well. The professor showed microscopic projects of barberry and wheat germs on the screen, illustrating the similarity of the wheat rust spore cycle to blister rust.

Mr. Whitman gave several talks during the year using blackboard and chalk as well as movie film before crew members in order to familiarize them with the various aspects of control work. On February 29 and May 2 the meetings were in the Elk Park School, and on May 22, the meeting was in Newland High School. On March 20 Mr. Whitman wrote news articles for the Avery County newspaper and Tri-County news.

On November 9 Mr. Teague reports that six small permanent panel exhibits were completed. On December 4 Mr. Teague gave a blister rust slide exhibit before the Sandy Mush School in Buncombe County.

TENNNESSEE

The usual informational services were carried on in Tennessee during 1940 by the State leader and agents.

VIRGINIA

Due to the lack of funds there was only one exhibit staged during the year. This was an indoor exhibit of posters and live material (pines and gooseberry bushes) that occupied a space 8' x 12' at the Plains District Fair, held at Broadway, Rockingham County, Virginia on September 27. Superintendent W. M. Early, Jr., of the non-federal project arranged for, and managed the exhibit. An estimated 1,200 persons visited the exhibit. 300 bulletins were distributed.

On April 27, 1940 the George Washington National Forest had a "Visitors Day" to celebrate the opening of their new offices in the new postoffice in Harrisonburg. Forest Supervisor, M. C. Howard, cordially suggested that a blister rust display be set up in the Forest Service offices, so this was done. It is estimated that 1500 people passed by the display. A feature of the day was that small spruce trees planted in paper cups were given away as souvenirs. It is regretted that it could not be arranged to have white pines given away instead.

On October - 29th a demonstration lasting about 45 minutes on the pine infection study plot on Reddish Knob and a lecture on all phases of blister rust control was made by Superintendent Luce to a group of twenty students and six teachers from Lincoln High School, New York City. It is understood that this is a training school for Columbia University teachers

A blister rust control exhibit was placed in the University of Richmond, at their request, in connection with other scientific exhibits.

Agent W. M. Early gave an informal talk on blister rust control before the Runions Creek Elementary School near Brocks Gap. He also arranged with the boy scout troops at Broadway and Timberville for a field trip.

Agent Showalter gave a talk before the pupils of the grade school at Oronoco. Objective instructions in the identification of ribes species, exhibition of blister rust specimens, distribution of publications, and explanation of control work were presented on this occasion.

WEST VIRGINIA

The regular informational activities were conducted including the publication of a news item, distribution of blister rust literature, and personal interviews with white pine owners and others. The State leader made an address to members of the Rotary Club of Marlinton on the subject of blister rust, its importance in the economy of white pine, and its cause and control. The major part of this kind of work, however, was done through personal instructions in interviews.

SUMMARY OF INFORMATIONAL SERVICES CARRIED ON DURING 1940

	Dela. (1)	Ga. (1)	Ky. (2)	Md. (1)	N. C. (2)	Tenn. (2)	Va. (1)	West Va. (2)	Totals
Meetings	-	17	-	3	9	-	7	1	37
Attendance at meetings	-	1790	-	80	124	-	156	22	2172
Items published	3	9	-	3	--	2	2	1	20
Demonstrations	-	-	-	-	1	2	1	-	4
Initial Interviews	163	347	-	166	164	1248	63	374	2525
Follow-up calls	106	128	-	132	40	54	7	17	
Individuals Instructed	-	-	20	15	419	92	298	66	910
No. Publications distributed	68	1723	25	580	1401	1130	2026	591	7544
No. Posters placed	-	74	-	-	29	58	31	20	212
Exhibits	-	1	-	2	2	-	1	-	6
Informal talks to teachers and schools	-	1	-	-	-	-	-	-	1

(1) Data from Annual Reports submitted by State leaders

(2) Data from December Monthly Summary.

C H E C K I N G

C H E C K I N G

1 9 4 0

CHECKING SUMMARY FOR 1940

STATE	ADVANCE		POST		REGULAR	
	Acreage Checked	No. 8 hour man-days	Acreage Checked	No. 8 hour man-days	Acreage Checked	No. 8 hour man-days
Georgia	1,163	84	324	6	2,417	110
Maryland	28	9	47	14	175	44
N. Carolina	388	(1)	-	-	721	296
Tennessee	2,043	454	-	-	98	40
Virginia	1,615	58	19	5	452	161
West Virginia	1,731	773	-	-	655	133
Total	6,968	1,378	390	25	4,518	784

(1) Charged to eradication

Practically all checking work done in 1940 was carried on in conjunction with preeradication surveys, and as yet no special checking organization has been set up in any state. Much of the difficulty has been in finding qualified men to carry on checking work. In addition the shortage of trucks has hampered the transportation of small checking crews independent of eradication and survey crews. It is hoped that this situation will be relieved in 1941 and that checking will get into full stride.

Because of the large acreage of ribes-free land surveyed there has been very little need of using special advance checking crews when such work was adequately covered by the preeradication survey crews. As soon as all initial survey work is completed and ribes-free and ribes-bearing lands accurately delimited in the field and on progress maps, checking will become a routine activity confined to post and regular checks.

In North Carolina Agent Whitman started employing the so-called "Checker-Flanker" system, a method devised in the Northwest Region to combine checking and eradication procedures as one operation. The object of this system is to reduce the cost of eradication on areas of low ribes population where a regular eradication crew would spend most of its time searching for ribes rathern than pulling them. In the Northwest the checker-flanker crew consists of three men; a checker who directs the work and covers a 16½ foot strip, running his line by compass and pacing, and two flank men covering "a zigzag course from the edge of the check strip to an outside distance of about one chain." Agent Whitman used a modification of this system in Avery County, North Carolina where five men were employed instead of three. On the center strip the compass-man and pacer was followed by the foreman who directed the work and kept the records. Two flank men scouted a 5-chain strip on either side of the center strip. The fifth man zigzagged behind the crew for missed bushes.

This method of eradication and checking is still in the experimental stage in this region. However, it is hoped that from it a definite plan, adapted to our conditions, can be developed, under which the bulk of our work can be conducted in the future, especially on light ribes areas. The results of Mr. Whitman's work are very encouraging and should stimulate interest in experimenting with this type of crew in other states. From Mr. Whitman's study we have made the following summary - comparing the original eradication with the flanker eradication.

Original crew eradication:

Total acres worked	8,967*
Acres white pine protected	2,845
Total man-days	293.5
Acres per man-day	30.4
Ribes per acre worked	.6
FLS per acre worked	2.9
Total cost	$ 627.60
Cost per acre of pine protected	.22
Cost per man day	.47

* 3535 acres worked were ribes-free (blockout) and not covered by the flanker crew.

Flanker eradication: (Mop-up on original eradication)

Total acres worked	5,432
Acres white pine protected	2,845
Total man days	121.25
Acres per man day	44.8
Ribes per acre worked	.65
FLS per acre worked	7.3
Total cost	$ 268.50
Cost per acre of pine protected	.09
Cost per man day	.45

Of the original acreage worked by the regular crew 60 per cent was covered by the flanker crew.

Results of 3 per cent regular check on original work:

Total ribes found by checker	293
Total FLS found	1,381
Ribes prr acre	1.1
FLS per acre	5.3

Results of 5 per cent check on flanker eradication*:-

Total ribes found by checker	880
Total FLS found	8,937
Ribes per acre	3.2
FLS per acre	32.9

* This check was made in conjunction with the flanker eradication and all bushes were pulled on the check strip after being recorded. As yet no report has been received on any formal check run following the flanker eradication. The results of the flank check indicate that a four or five per cent check is more desirable than a $2\frac{1}{2}$ per cent check on ribes-bearing land, especially where the bushes are more or less scattered throughout the area.

Checking work plan for 1941:

In 1941 it is planned to concentrate on post checking in all of the Southern Appalachian States during control work. Besides determining the status of control work on ribes-bearing areas detailed checking maps will be made of all ribes-bearing lands so we can obtain a definite picture as to the extent and acreage of such areas.

Old ribes-bearing areas worked prior to any detailed mapping will be delimited if it is found that their reworking is not necessary because of the distance from white pine or because the white pine is of such poor quality that additional control work would be a waste of money. In some cases it may be found advisable to enlarge the control areas to offer better protection to the pine or because of error in establishing the original control zone.

Regular checks will be conducted as usual, following ribes eradication. Regular checks however will not follow immediately after ribes eradication but will be conducted at least two weeks following eradication so the old bushes pulled will have ample time to wither, rendering it easier for the checker to spot missed bushes, sprouting and seedlings.

Where spring mop-up work is done on dormant eradication it has been found in several cases that the cost of such mop-up is nearly as great as the original working. The main reason for this is that the time consumed in searching for small missed bushes is nearly as great as the time expended in eradicating the large bushes during the dormant season.

It has been recommended therefore that in localities not known to be diseased no mop-up work be done, and that any further work be deferred for a period of not more than two years. By that time any crowns left in the ground when initially worked will have put on sufficient live stem as to be readily visible. Also seedlings, which might be missed entirely in the spring mop-up should have grown sufficiently to make them discernible.

As yet no definite policy has been established in the region to apply generally to mop-up work following dormant ribes eradication. However, whether an area is mopped up or not, a regular check should always be made on dormant work. The check itself will in many cases determine whether or not the area can be safely left without a mop up.

Prepared by
J. C. Ball
May 15, 1941

LOCAL CONTROL

LOCAL CONTROL

Summary

In 1940 ribes eradication was carried on in seven states, one less than in 1939, viz; Delaware, Georgia, Maryland, North Carolina, Tennessee, Virginia and West Virginia. Laborers were secured from the WPA project in the above seven states; from the Regular and Cooperative projects in Delaware, Maryland, North Carolina; from the ECW and SCS projects in Maryland, North Carolina, Tennessee, Virginia and West Virginia.

SUMMARY OF RIBES ERADICATION DATA - SOUTHERN APPALACHIAN STATES

1940 and 1918 to 1940 Inclusive

Table 1

Year	Acreage Worked	Number of Ribes Destroyed			Total 8 hour man-days
		Wild	Cultivated	Total	
1940	655,821	3,059,552	47,433	3,106,985	28,663
1918-1939	6,127,892	(1)24611,893	(1)1210,082	25,821,975(1)	229,666
1918-1940	6,783,713	27,671,445	1257,515	28,928,960	258,329

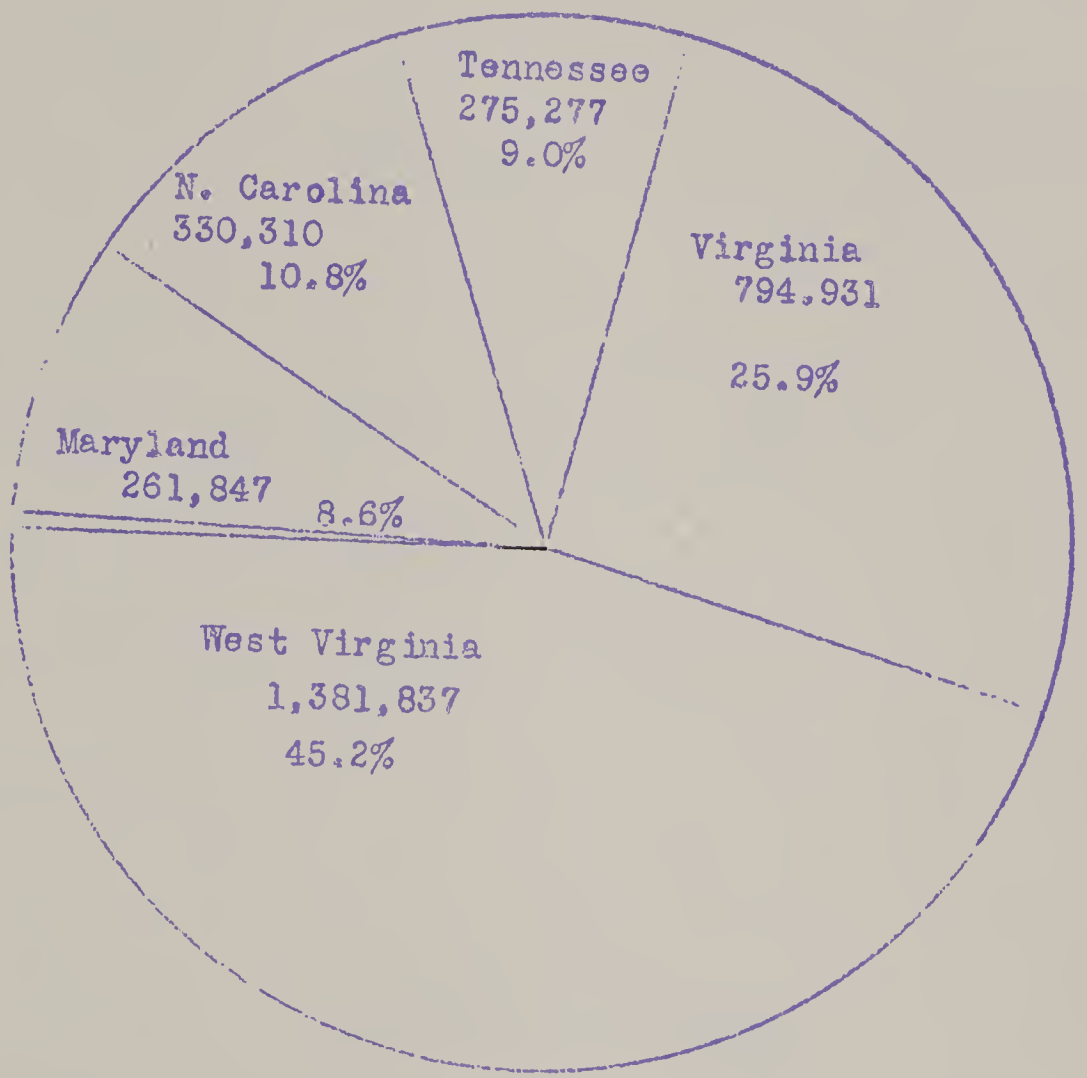
(1) Corrections were made in cumulative figures through 1939 adding 12,646 acres and 22 wild ribes.

Year	Number of Ribes Destroyed		No. 8 hour days per acre	Cost Data	
	Per man-day	Per acre		Total	Per Acre
1940	108.40	4.73	0.043	82,219.36	0.125
1918-1939	112.43	4.23	.037	564,524.02(2)	.092
1918-1940	111.98	4.26	0.038	646,743.38	.095

(2) A correction was made in the preceding cumulative figure for cost of ribes eradication by a reduction of $3,344.86.

GRAPH SHOWING NUMBER OF WILD RIBES DESTROYED BY STATES

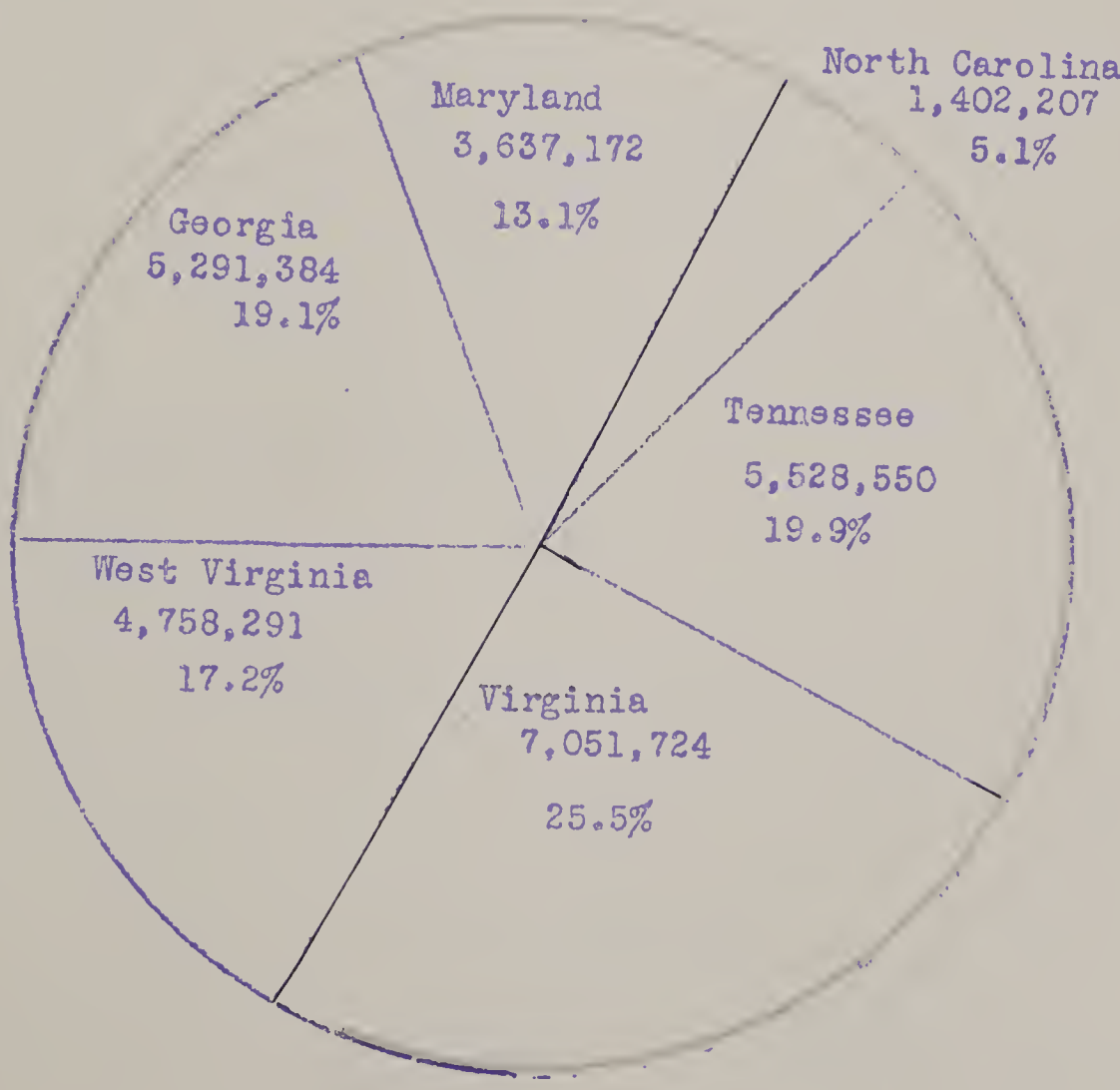
SOUTHERN APPALACHIAN DISTRICT



1940

Georgia - 15,332
0.5%

Delaware - 18
0%



1928
to
1940

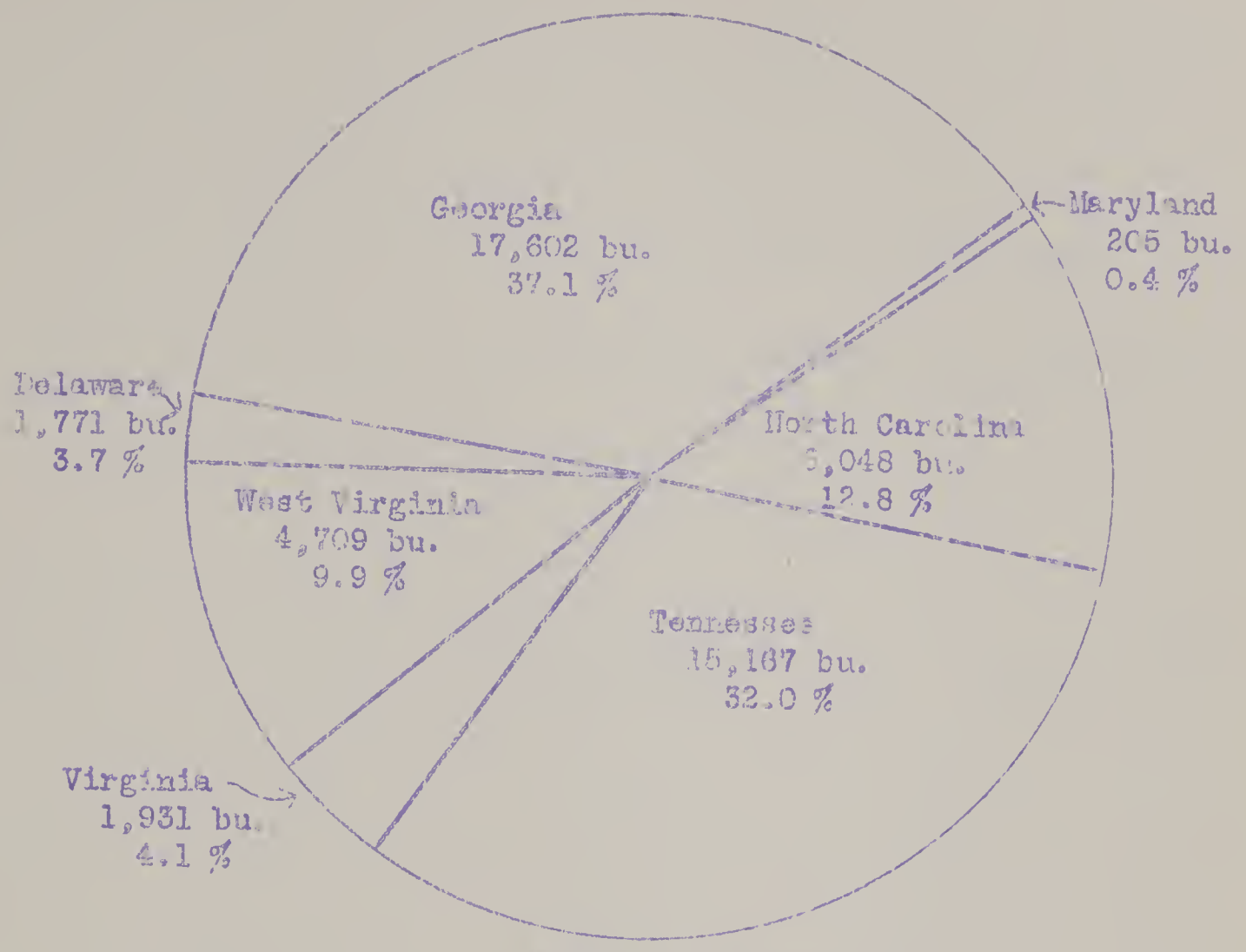
Kentucky
2,096
0.01%

Delaware
21
0%

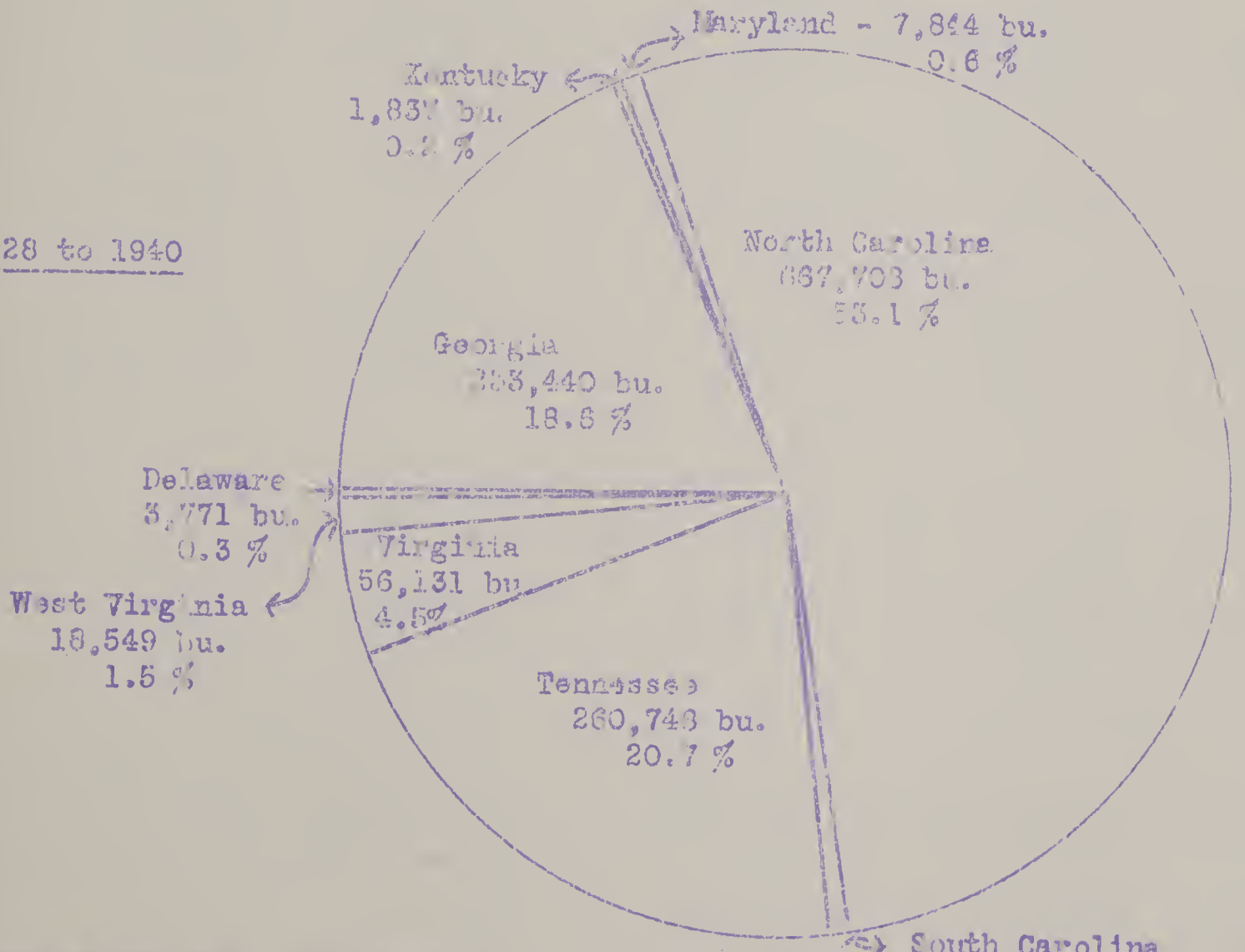
H-1.1

GRAPES (EXCLUDING NUMBER OF CULTIVATED FRUITS PRODUCED BY STATES
(INITIAL AND REVISED)
SOUTHERN APPALACHIAN REGION

1940



928 to 1940



BY PROJECTS

Detailed statistics on eradication figures by states are to be found in the Omnibus Statistical Tables 1 and 1A, 2 and 2A and 4B at the front of this report, while data on costs are to be found in Tables 4 and 4A.

The following table shows the results of ribes eradication by projects

SUMMARY OF RIBES ERADICATION DATA FOR SOUTHERN APPALACHIAN STATES

FOR

1940 and for period 1918-1940 Inclusive

Table 2

Projects 1940	Acreage Worked	Number of Ribes Destroyed			Total 8 hour man-days
		Wild	Cultivated	Total	
Regular and Coop.	1,174	911	293	1,204	56
Fed. WPA	324,201	1,574,272	38,634	1,612,906	10,437
State WPA	297,733	1,235,568	8,322	1,243,890	14,014
Subtotal all WPA	621,934	2,809,840	46,956	2,856,796	24,451
CCC and ECW	32,713	248,801	184	248,985	4,156
Total Emergency Projects	654,647	3,058,641	47,140	3,105,781	28,607
Grand Total all projects	655,821	3,059,552	47,433	3,106,985	28,663
1918-1940					
Regular	94,705	254,932	5,226	259,858	1,155
Fed. WPA	4,337,302	20,233,244	1,046,400	21,279,644	177,655
State WPA	334,634	1,395,147	8,737	1,403,884	19,141
Subtotal WPA	4,671,936	21,628,391	1,055,137	22,683,528	196,796
CCC, ECW and SCS	431,853	3,339,711	10,128	3,349,839	41,150
PWA	1,585,219	2,448,711	187,024	2,635,735	19,228
Tot.Emerg.	6,689,008	27,416,813	1,252,289	28,669,102	257,174
Totals	6,733,713	27,671,415	1,257,515	28,928,960	258,329

BY WORKING

Local control began in 1929 in Virginia; in 1933 in Maryland, North Carolina, South Carolina, Tennessee, and West Virginia; in 1934 in Kentucky; and in 1938 in Delaware and the District of Columbia.

In 1940, 86 per cent of the acreage worked was initial and 14 per cent rework; while of the number of ribes bushes destroyed 70 per cent was initial and 30 per cent rework.

While 563,636 acres were reported initially worked in 1940, in contrast to 359,132 acres reported initially worked in 1939, the total cumulative acreage reported worked was reduced from 5,216,228 acres in 1939 to 4,871,783 acres in 1940. This reduction was due to a change of acreage figures in North Carolina; 919,079 acres having been in the past few years erroneously credited to initial work, rather than to rework in that State.

Of the 5,132,191 acres estimated to represent the entire control area, 4,871,783 acres, or 94.9 per cent had been initially worked by December 31, 1940.

At present no work is being conducted in Delaware, Kentucky or South Carolina, since pine surveys and initial eradication have been completed in those states and since in Delaware and South Carolina the problem of eradication concerns cultivated ribes only.

In Kentucky also the problem concerns cultivated ribes. These can not yet be removed owing to the absence of the blister rust in the state and the attitude of the State Entomologist towards ribes eradication, because of the absence of disease.

Table 3 SUMMARY OF ACREAGE WORKED IN 1940 BY WORKING

State	Acreage Worked (By Working)						
	First	Second	Third	Fourth	Fifth	Sixth	Total
Delaware	245	-	-	-	-	-	245
Georgia	157,046	-	-	-	-	-	157,046
Maryland	2,585	280	2,322	-	833(1)	1631(1)	7,651
N. Carolina	21,052	47,622	-	-	-	-	68,674
Tennessee	207,887	2,948	-	-	-	-	210,835
Virginia	79,380	22,692	1,410	-	-	-	103,482
West Virginia	95,441	12,447	-	-	-	-	107,888
Totals	563,636	85,989	3,732	-	833	1631	655,821

(1) Fifth and sixth workings in Maryland represent CCC work on State Forest lands.

BY OWNERSHIP

In 1940, the area worked totalled 655,821 acres in contrast to 491,106 acres worked in 1939. Of the 1940 acreage, state and private lands accounted for 50 per cent, federally-owned acreage 50 per cent. Of the latter 42.3 per cent of the whole acreage was in the national forests, 7.2 per cent in the national parks and the remainder in resettlement lands and army lands.

For details on ownership by states see Table 5, Sheets 1 to 7, on pages A-7 to A-11 inclusive for 1940, and Table 5A, Sheets 1 to 10, on pages A-19 to A-23 inclusive for 1918 to 1940.

A graph follows showing acreage worked by ownership for 1940 and for 1918-1940.

GRAPH SHOWING RIBES ERADICATION - ACREAGE WORKED BY OWNERSHIP
(Initial and Rework)

1 9 4 0

U. S. Army Engineers
62 Acres
.009%



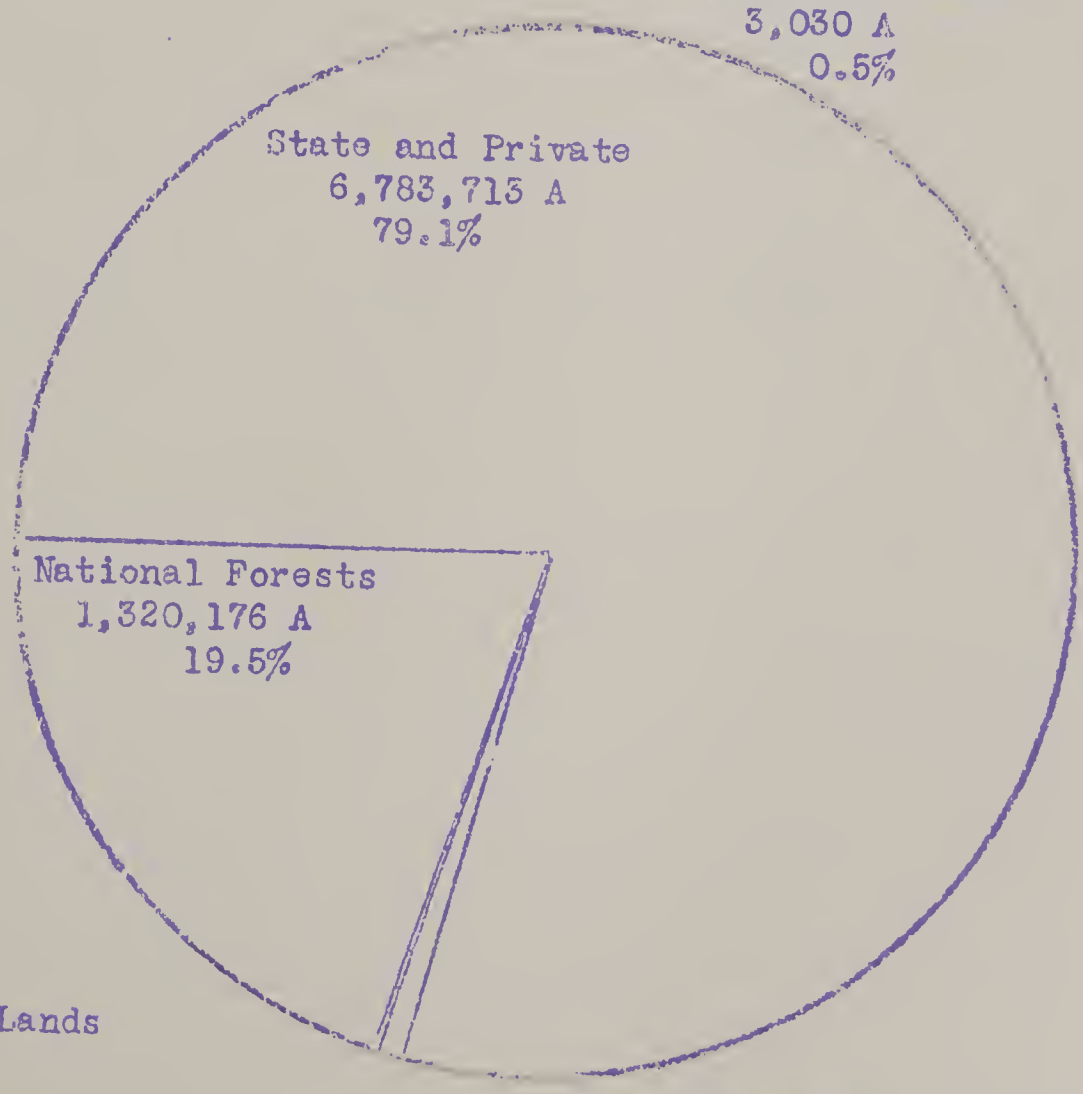
1 9 2 8

to

1 9 4 0

U. S. Army Engineers
62 A
0%
Indian Reservations
100 A
0%

Resettlement Lands
4,463 A
0.07%



PRODUCTIVITY RATINGS
in
Ribes Eradication in 1940

State	Acres Worked	No. Ribes Destroyed	No. Man Hours (Days)		(Hours)
Ga.	157,046	32,934	1250 x 8	equals	10,000
Md.	7,651	262,052	2362 X 8	equals	18,896
N.C.	68,674	336,358	5070 x 8	equals	40,560
Tenn.	210,835	290,444	2899 x 8	equals	23,192
Va.	103,482	796,862	8617 x 8	equals	68,936
W.Va.	107,888	1386,546	8329 x 8	equals	66,624

State	Acres Per Man Hr.	Ribes Per man Hr.	Productivity Rating
Ga.	15.705	3 293	51.72
Md.	0.405	13.868	5.62
N.C.	1.693	8.293	14.04
Tenn.	9.091	12.523	113.85
Va.	1.501	11.559	17.35
W.Va.	1.619	20.812	33.69

SUMMARY OF RIBES ERADICATION IN 1940

By Working, Project and Ownership

DELAWARE

Table 1

Classification	Acreage Worked	Number of Ribes Destroyed			No. of 8 hour man-days
		Wild	Cultivated	Total	
By Working					
Initial Work	245	18	1,656	1,674	122
Rework	-	-	115	115	15
Total	245	18	1,771	1,789	137
By Project					
Regular	-	-	167	167	12
W. P. A.	245	18	1,604	1,622	125
Total	245	18	1,771	1,789	137
By Ownership					
Federal	62	-	-	-	2
State	-	-	-	-	-
Private	18	18	1,771	1,789	135
Total	245	18	1,771	1,789	137

Classification	Total Cost	Number Acres per man-days	Per Acre		
			Number Ribes	Number man-days	Cost
By Working					
Initial Work	$ 960.04	2.0	6.7	0.5	3.92
Rework	118.05	-	-	-	-
Total	1,078.09	1.8	7.3	0.56	4.40
By Project					
Regular	62.63	-	-	-	-
W. P. A.	1,015.46	2.0	6.6	0.51	4.14
Total	1,078.09	1.8	7.3	0.56	4.40
By Ownership					
Federal	15.74	31.0	-	.03	0.25
State	-	-	-	-	-
Private	1,062.35	1.4	9.8	0.74	5.81
Total	1,078.09	1.8	7.3	0.56	4.40

SUMMARY OF RIBES ERADICATION BY WORKING, PROJECT, OWNERSHIP AND YEAR
1938-1940 Inclusive

DELAWARE

Table 2

Classification	Year	Acreage Worked	Number of Ribes Destroyed			No. 8 hour man-days
			Wild	Culti.	Total	
BY WORKING						
First	1938	1,076	-	638	638	43
	1939	2,946	3	1,362	1,365	88
	1940	245	18	1,656	1,674	122
Total First Working		4,267	21	3,656	3,677	253
BY WORKING						
Second	1940	-	-	115	115	15
Total Both Workings		4,267	21	3,771	3,792	268
BY PROJECT	1938	-	-	32	32	-
Regular	1939	7	1	41	42	-
	1940	-	-	167	167	12
Total Regular		7	1	240	241	12
BY PROJECT						
WPA	1938	1,076	-	606	606	43
	1939	2,939	2	1,321	1,323	88
	1940	245	18	1,604	1,622	125
Total WPA		4,260	20	3,531	3,551	256
GRAND TOTAL		4,267	21	3,771	3,792	268
BY OWNERSHIP						
Federal	1940	62	-	-	-	2
State	1939	309	-	-	-	6
Municipal	1938	570	-	40	40	6
Private	1938	506	-	598	598	37
	1939	2,637	3	1,362	1,365	82
	1940	183	18	1,771	1,789	135
Total Private		3,326	21	3,731	3,752	254
GRAND TOTAL		4,267	21	3,771	3,792	268
BY YEAR	1938	1,076	-	638	638	43
	1939	2,946	3	1,362	1,365	88
	1940	245	18	1,771	1,789	137
GRAND TOTAL		4,267	21	3,771	3,792	268

SUMMARY OF RIBES ERADICATION BY WORKING, PROJECT, OWNERSHIP AND YEAR
1938-1940 Inclusive DELAWARE

Table 2 (continued)

Classification	Year	Total Cost	No. Acres Per man-days	Per Acre Number Ribes	Per Acre Number man-days	Per Acre Cost
BY WORKING						
First	1938	$ 294.92	25.0	0.593	0.04	$0.27
	1939	704.92	33.0	0.46	0.03	0.24
	1940	960.04	2.0	5.7	0.5	3.91
Total First Working		1,959.88	16.9	0.86	0.059	.46
Second		118.05				
Grand Total		2,077.93	15.9	0.88	0.063	0.487
BY PROJECT						
Regular	1938	-	-	-	-	-
	1939	-	-	6.0	-	-
	1940	62.63	-	-	-	-
Total Regular		62.63	-	34.4(1)	-	-
WPA	1938	294.92	25.0	0.56	0.040	0.27
	1939	704.92	33.0	0.45	0.029	0.24
	1940	1,015.46	1.96	6.62	0.510	4.14
Total WPA		2,015.30	16.6	0.83	0.60	.47
GRAND TOTAL		2,077.93	15.9	0.88	0.063	0.487
BY OWNERSHIP						
Federal	1940	15.74	31.0	-	0.03	0.25
State	1939	48.00	51.5	-	0.019	0.155
Municipal	1938	41.10	95.0	0.07	0.01	0.072
Private	1938	253.82	13.7	1.18	0.073	0.501
	1939	656.92	32.1	0.5	0.031	0.249
	1940	1,062.35	1.36	9.78	0.94	5.81
Total Private		1,973.09	1.31	1.13	0.76	.59
GRAND TOTAL		2,077.93	15.9	0.88	0.063	0.487
BY YEAR	1938	294.92	25.0	0.593	0.039	0.27
	1939	704.92	33.0	0.48	0.03	0.24
	1940	1,078.09	1.78	0.56	0.73	4.40
GRAND TOTAL		$2,077.93	15.9	0.88	0.063	$0.487

(1) This represents the total number of ribes destroyed in three years divided by the acreage reported worked.

SUMMARY OF RIBES ERADICATION IN 1940
By Working, Project and Ownership
GEORGIA

Table 1

Classification	Acreage Worked	Number of Ribes Destroyed			No. of 8 hr. man-days
		Wild	Cultivated	Total	
By Working					
Initial Work	157,046	15,332	17,602	32,934	1,250
Rework	-	-	-	-	-
Total	157,046	15,332	17,602	32,934	1,250
By Project					
Regular	-	-	-	-	-
W. P. A.	157,046	15,332	17,602	32,934	1,250
Total	157,046	15,332	17,602	32,934	1,250
By Ownership					
Federal	47,943	173	7,269	7,442(1)	416
State and private	(2)	6,988	-	6,988	(2)
		8,171	10,333	18,504	(2)
Sub-total State and private	109,103	15,159	10,333	25,502	834
Grand Total	157,046	15,332	17,602	32,934	1,250

(1) This was erroneously reported in Omnibus Table as 7432 ribes.
(2) Data not available.

Classification	Total Cost	Number Acres per man-days	Per Acre		
			Number Ribes	Number man-days	Cost
By Working					
Initial Work	$3,687.50	126	.209	0.008	$.023
Rework	-	-	-	-	-
Total	3,687.50	126	.209	0.008	.023
By Project					
Regular	-	-	-	-	-
W. P. A.	3,687.50	126	.209	0.008	.023
Total	3,687.50	126	.209	0.008	.023
By Ownership					
Federal	1,229.17	115	.155	0.009	0.026
State and private	(2)	-	-	-	-
	(2)	-	-	-	-
Subtotals State and private	2,458.33	131	.234	0.008	0.022
Grand Total	3,687.50	126	.209	0.008	0.023

(2) Data not available.

SUMMARY OF RIBES ERADICATION BY WORKING AND YEAR 1933-1940 INCLUSIVE, GEORGIA
Table 2

Classification	Year	Acreage Worked	Number of Ribes Destroyed			Total man-days labor
			Wild	Cultivated	Total	
INITIAL WORKING						
	1933	8,851	-	-	-	40
	1934	133,362	-	12,744	12,744	468
	1935	173,097	832,193	16,418	848,611	3,169
	1936	108,950	1,734,447	46,571	1,781,018	3,350
	1937	60,881	1,210,362	85,660	1,296,022	6,105
	1938	89,925	769,541	53,786	823,327	5,098
	1939	93,120	419,024	-	419,024	2,574
	1940	157,046	15,332	17,602	32,934	1,250
Total		825,232	4,980,899	232,781	5,213,680	22,054
REWORK						
	1935	-	-	659	659	68
	1936	155	29,858	-	29,858	300
	1937	3,775	190,472	-	190,472	1,485
	1938	8,500	90,155	-	90,155	909
Total		12,430	310,485	659	311,144	2,762
GRAND TOTAL (Both Workings)		837,662	5,291,384	233,440	5,524,824	24,816

Note: No rework in 1939 and 1940

Classification	Year	Total Cost	No. Acres per man-days	Per Acre		
				Number Ribes	Number Man-days	Cost
INITIAL WORKING						
	1933	$ 162.65	221.	-	0.004	$0.018
	1934	3,907.37	283	.09	0.003	0.029
	1935	10,087.68	54.6	4.90	0.018	0.058
	1936	8,700.04	32.0	16.35	0.030	0.079
	1937	8,279.55	9.8	21.20	0.100	0.136
	1938	8,870.52	17.6	9.15	0.056	0.098
	1939	5,464.64	36.2	4.18	0.028	0.059
	1940	3,687.50	12.6	.21	0.008	0.023
Total		$49,159.95	37.4	6.33	0.027	.059
REWORK						
	1935	217.60	-	-	-	-
	1936	350.00	0.51	192.5	1.93	2.26
	1937	2,758.59	2.54	50.4	0.39	0.73
	1938	1,581.01	0.36	10.6	0.107	0.18
Total		4,907.20	4.5	25.1	2.23	0.395
GRAND TOTAL	BOTH WORKINGS	$54,067.15	33.7	6.63	0.05	$0.065

SUMMARY OF RIBES ERADICATION BY PROJECT AND YEAR FROM 1933 to 1940 INCLUSIVE
GEORGIA

Table 3

Project	Year	Acreage Worked	Number of Ribes Destroyed			Total man-days labor
			Wild	Cultivated	Total	
WPA	1935	124,122	828,042	8,719	836,761	2,961
	1936	109,105	1,764,305	46,571	1,810,876	3,650
	1937	64,656	1,400,834	85,660	1,486,494	7,590
	1938	98,425	859,696	53,786	913,482	6,007
	1939	73,120	419,024	-	419,024	2,574
	1940	157,046	15,332	17,602	32,934	1,250
Total		646,474	5,287,233	212,338	5,499,571	24,032
PWA	1934	126,720	-	12,509	12,509	457
	1935	48,975	4,151	8,358	12,509	276
Total		175,695	4,151	20,867	25,018	733
ECW	1933	8,851	-	-	-	40
	1934	6,642	-	235	235	11
Total		15,493	-	235	235	51
GRAND TOTAL		837,662	5,291,384	233,440	5,524,824	24,816

Project	Year	Total Cost	Acres per man-day	Per Acre		
				Number Ribes	Number Man-days	Cost
WPA	1935	$ 7,603.78	41.9	6.74	.024	$0.061
	1936	9,050.04	29.9	16.6	0.033	0.083
	1937	11,038.14	8.5	22.9	0.12	0.17
	1938	10,451.53	16.4	9.8	0.061	0.106
	1939	5,464.64	36.2	4.18	0.028	0.059
	1940	3,687.50	126.	.209	0.008	0.023
Total		47,295.63	26.9	8.5	0.037	$0.073
PWA	1934	3,788.36	277	0.099	0.0036	0.029
	1935	2,701.50	177	0.25	0.0056	0.056
Total		6,489.86	240	0.142	0.0042	0.036
ECW	1933	162.65	221.	-	0.004	0.018
	1934	119.01	604.	0.035	0.0016	0.018
Total		281.66	303.	0.015	.0033	0.018
GRAND TOTAL		$54,067.15	33.7	6.63	.03	$0.065

SUMMARY OF RIBES ERADICATION BY YEAR 1933 - 1940 INCLUSIVE GEORGIA

TABLE 4

By Year	Acreage Worked	Number of Ribes Destroyed			No. 8 hour man-days
		Wild	Culti.	Total	
1933	8,851	-	-	-	40
1934	133,362	-	12,744	12,744	468
1935	173,097	832,193	17,077	849,270	3,237
1936	109,105	1,764,305	46,571	1810,876	3,650
1937	64,656	1,400,834	85,660	1486,494	7,590
1938	98,425	859,696	53,786	913,482	6,007
1939	93,120	419,024	-	419,024	2,574
1940	157,046	15,332	17,602	32,934	1,250
Total	837,662	5,291,384	233,440	5524,824	24,816

By Year	Total Cost	Numer Acres Per man-days	Per Acre		
			Number Ribes	Number man-days	Cost
1933	$ 162.65	221.3	-	0.004	$0.018
1934	3,907.37	285.0	0.096	0.0035	0.029
1935	10,305.28	53.7	4.9	0.018	0.059
1936	9,050.04	29.9	16.6	0.033	0.083
1937	11,038.14	8.52	22.9	0.12	0.17
1938	10,451.53	16.37	9.28	0.061	0.104
1939	5,464.64	38.22	4.50	0.028	0.059
1940	5,687.50	126	0.209	0.008	$0.023
GRAND TOTAL	54,067.15	33.7	6.63	0.03	$0.065

Table 5 GEORGIA

Ownership	Year	Acres	Number of Ribes Destroyed			Total man-days labor
			Wild	Cultivated	Total	
Nat'l Forest Chattahoochee	1933	8,112	-	-	-	40
	1934	6,642	-	235	235	11
	1935	125,976	736,585	1,321	737,906	2,027
	1936	73,655	1,542,986	25,690	1,568,586	3,350
	1937	50,631	996,774	42,305	1,039,079	5,089
	1938	75,975	530,145	45,100	575,245	4,284
	1939	23,480	301,520	-	301,520	1,770
	1940	47,943	173	7,269	7,442(1)	416
Totals		412,414	4,108,093	121,920	4,230,013	16,987
State	1935	125	11,337	-	11,337	31
	1936	-	-	-	-	-
	1937	25	3,110	-	3,110	21
	1938	2,318	75,840	-	75,840	299
	1939	2,860	25,586	-	25,586	181
	1940	(2)	6,988	-	6,988	-
Totals		5,328	122,861	-	122,861	532
Private	1933	739	-	-		(3)
	1934	126,720	-	12,509	12,509	457
	1935	46,996	84,271	15,756	100,027	1,179
	1936	35,450	221,409	20,881	242,290	300
	1937	14,000	400,950	43,355	444,305	2,480
	1938	20,132	253,711	8,686	262,397	1,424
	1939	66,780	91,918	-	91,918	623
	1940	109,103	8,171	10,333	18,504	834
Totals		419,920	1,060,430	111,520	1,171,950	7,297
Grand Total all lands		837,662	5,291,384	233,440	5,524,824	24,816

Ownership	Year	Total Cost	Per Acre		
			Number Ribes	Number man-days	Cost
Nat'l Forest Chattahoochee	1933	$ 147.90	-	-	$0.018
	1934	119.01	0.035	-	0.018
	1935	7,308.00	5.86	0.016	0.058
	1936	6,154.00	21.3	0.045	0.083
	1937	7,366.14	20.5	0.10	0.14
	1938	7,454.16	7.5	0.056	0.098
	1939	3,752.12	12.8	0.075	0.160
	1940	1,229.17	.155	0.009	0.026
Totals		33,530.50	10.5	0.042	0.084
State	1935	76.88	90.7	0.248	0.615
	1937	32.17	124.1	0.04	1.295
	1938	520.20	32.7	0.139	0.224
	1939	385.55	9.0	0.05	0.155
Totals		1,014.74	41.7	0.09	0.190
Private	1933	14.75	-	-	0.0195
	1934	3,788.36	0.099	0.0036	0.031
	1935	2,920.40	2.13	0.025	0.062
	1936	2,896.04	6.82	0.0085	0.082
	1937	3,639.87	31.7	0.177	0.26
	1938	2,477.17	13.0	0.071	0.123
	1939	1,326.99	1.38	0.009	0.02
	1940	2,453.55	.258	0.011	0.034
Totals		19,521.91	3.06	0.019	0.051
GRAND TOTALS ALL LANDS		$54,067.15	6.63	0.031	0.065

(1) Erroneously roported in omnibus table 5, sheet 1 as 7432
(2) Included with private land
(3) Included with National Forest

SUMMARY OF AAA-1 ACTIVITIES IN 1940
By Working, Project and Ownership
Maryland

Table 1

Classification Initial Work	Acreage Worked	Number of Ribes Destroyed: Wild	Cultivated	Total	Number 8 hour man-days
By Working					
Initial Work	2,585	84,485	143	84,628	767
Rework	5,066	177,362	62	177,424	1,595
Total	7,651	261,847	205	262,052	2,362
By Working					
First	2,585	84,485	143	84,628	767
Second	280	5,218	-	5,218	100
Third	2,322	169,583	62	169,645	1,080
Fifth (1)	833	1,921	-	1,921	300
Sixth (1)	1,631	640	-	640	115
Total	7,651	261,847	205	262,052	2,362
By Project					
Regular	380	911	-	911	13
WPA	3,193	146,001	199	146,200	1,234
ECW	4,078	114,935	6	114,941	1,115
Total	7,651	261,847	205	262,052	2,362
By Ownership					
Federal (2)	3,030	192,339	199	192,538	1,232
State	2,471	28,541	6	28,547	514
Municipal	150	225	-	225	1
Private	2,000	40,742	-	40,742	615
Total	7,651	261,847	205	262,052	2,362

(1) The fifth and sixth workings were done by CCC men on State land near their camp in Allegany County.
(2) The federal land is land purchased by the Resettlement Administration and leased to the State of Maryland for operation.

Classification	Total Cost	Number Acres per man-day	Per Acre: Number Wild Ribes	Number man-days	Cost
By Working					
Initial Work	$2,228.44	3.3	32.7	0.29	$ .862
Rework	3,338.39	3.15	35.	0.31	.658
Total	5,566.83	3.2	34.2	0.31	.727
By Working					
First	2,228.44	3.3	32.7	.02	.862
Second	266.48	2.8	18.6	.057	.951
Third	2,440.48	2.1	73.0	.46	1.05
Fifth	456.45	2.7	2.3	.36	.547
Sixth	174.98	14.1	.39	.07	.107
Total	5,566.83	3.2	34.2	.31	.727
By Project					
Regular	40.80	29.2	2.4	.034	.107
WPA	3,829.53	3.18	45.7	.386	1.20
ECW	1,696.50	3.65	28.2	.273	.416
Total	5,566.83	3.2	34.2	.31	.727
By Ownership					
Federal	3,021.34	2.4	63.4	.40	.997
State	878.55	4.8	1.5	.21	.355
Municipal	3.13	150.0	1.5	.006	3.13
Private	1,663.81	3.2	20.3	.31	.831
Total	$5,566.83	3.2	34.2	.31	.727

SUMMARY OF RIBES ERADICATION IN MARYLAND
From 1932 to 1940 Inclusive

Table 2

Classification	Year	Acreage Worked	Number of Ribes Destroyed			No. 8 hour man-days
			Wild	Cultivated and escapted	Total	
Initial Working	1932	800	-	1	1	-
	1933	1,890	187,465	5	187,470	316
	1934	106,695	927,189	1,062	928,251	2,442
	1935	24,259	511,849	482	512,331	2,112
	1936	22,281	511,600	881	512,431	2,681
	1937	12,165	287,283	492	287,775	1,780
	1938	3,389	301,774	137	301,911	1,636
	1939	974	95,767	2,247	98,014	550
	1940	2,585	84,485	143	84,628	767
Total		175,038	2,907,412	5,450	2,912,862	12,284
Second Working						
	1934	469	37,886	-	37,886	56
	1935	18,603	185,704	1,422	187,126	1,588
	1936	1,899	21,908	92	22,000	434
	1937	4,158	60,005	181	60,186	814
	1938	817	91,588	10	91,598	504
	1939	1,841	76,626	85	76,711	865
	1940	280	5,218	-	5,218	100
Total		28,067	478,935	1,790	480,725	4,361
Third Working	1936	5,988	10,478	323	10,801	498
	1937	3,234	41,281	82	41,363	447
	1938	340	8,665	-	8,665	124
	1940	2,322	169,583	62	169,645	1,080
Total		11,884	230,007	467	230,474	2,149
Fourth Wroking	1938	2,420	3,904	7	3,911	217
	1939	4,510	12,188	130	12,318	603
Total		6,930	16,092	137	16,229	820
Fifth Working	1939	718	2,165	-	2,165	120
	1940	833	1,921	-	1,921	300
Total		1,551	4,086	-	4,086	420
Sixth Working	1940	1,631	640	-	640	115
Grand Total all workings		225,101	3,637,172	7,484	3,645,016	20,149
Total all reworkings		50,063	729,780	2,394	732,154	7,865

Classification	Year	Total Cost	No. Acres per man-day	Per Acre		
				Number Ribes	Man-days	Cost
Initial Working	1932	$ 26.35	-	.001	-	$0.033
	1933	1,684.95	6.0	99.04	0.17	0.89
	1934	8,219.05	43.6	8.71	0.023	0.077
	1935	5,622.07	11.5	21.04	0.087	0.232
	1936	7,653.65	8.3	23.0	0.12	0.344
	1937	5,610.87	6.8	23.6	0.15	0.46
	1938	4,031.09	2.1	89.0	0.48	1.19
	1939	1,467.61	1.8	100.8	0.56	1.50
	1940	2,228.44	3.3	32.7	0.29	0.862
Total		36,544.08	14.3	16.6	0.07	0.209
Second Working	1934	204.73	8.4	80.7	0.119	0.436
	1935	4,484.18	11.7	10.0	0.085	0.241
	1936	1,000.00	4.4	11.6	0.228	0.52
	1937	2,450.00	5.1	14.4	0.194	0.59
	1938	1,416.70	1.6	112.0	.63	1.73
	1939	2,308.02	2.1	41.6	0.46	1.25
	1940	266.48	2.8	18.6	.357	.951
Totals		$12,140.11	5.8	17.1	.155	$0.433

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SUMMARY OF RIBES ERADICATION IN MARYLAND
From 1932 to 1940 Inclusive

Table 2 (continued)

Classification	Year	Total Cost	No. Acres Per man-days	Per Acre		
				No. of Ribes	No. of man-days	Cost
By Working	1936	$ 1,300.00	12.0	1.8	0.08	$ 0.22
Third Working	1937	1,374.00	7.2	12.8	0.138	0.42
	1938	348.40	2.7	25.0	0.36	1.02
	1940	2,440.48	2.1	73.0	.46	1.05
Total		5,462.88	5.5	19.4	0.18	0.46
Fourth Working						
	1938	271.00	11.2	1.6	0.89	0.11
	1939	1,606.33	7.5	2.73	0.13	0.35
Total		1,877.33	8.4	2.43	0.18	0.27
Fifth Working	1939	323.04	6.0	3.01	0.16	0.45
	1940	456.45	2.7	2.3	0.36	0.55
Total		779,49	3.7	2.6	0.27	0.51
Sixth Working	1940	174.98	14 1	0.39	.07	$ .107
Grand Totals All Workings		$56,978.87	11.2	16.2	.09	0.253
Total Al Reworking		$20,434.79	6.4	14.6	.15	0.408

SUMMARY OF RIBES ERADICATION IN MARYLAND
By Project and Year, 1932 to 1940 Inclusive

Table 3

Classification	Year	Acreage Worked	Number of Ribes Destroyed			No. Man-days labor
			Wild	Cultivated and Escaped	Total	
Project						
Regular and	1932	800		1	1	-
Cooperative	1937	-	-	-	-	-
	1938	980	68	48	116	2
	1939	-	481	130	611	-
	1940	380	911	-	911	13
Total		2,160	1,460	179	1,639	15
E. R. A.						
	1936	185	74,000	-	74,000	149
	1937	465	84,161	-	84,161	223
Total		650	158,161	-	158,161	372
Combined Total Regular and ERA		2,810	159,621	179	159,800	387
WPA	1935	18,487	308,689	430	309,119	1,770
	1936	29,801	439,221	1,296	440,517	3,346
	1937	19,092	304,408	755	305,163	2,818
	1938	3,094	380,337	106	380,443	1,901
	1939	5,963	162,875	2,106	164,981	1,601
	1940	3,193	146,001	199	146,200	1,234
Totals		79,630	1,741,531	4,892	1,746,423	12,670
CCC and ECW	1934	260	76,051	-	76,051	292
	1935	5,733	274,503	12	274,515	863
	1936	182	30,765	-	30,765	118
	1938	2,892	25,526	-	25,526	578
	1939	2,080	23,390	226	23,616	537
	1940	4,078	114,935	6	114,941	1,115
Total		15,225	545,170	244	545,414	3,503
PWA	1933	1,890	187,465	5	187,470	316
	1934	106,904	889,024	1,062	890,086	2,206
	1935	18,642	114,361	1,462	115,823	1,067
Total		127,436	1,190,850	2,529	1193,379	3,589
Grand Total		225,101	3,637,172	7,844	3645,016	20,149

SUMMARY OF RIBES ERADICATION IN MARYLAND
By Project, and Year, 1932 to 1940 Inclusive

Table 3 (continued)

Classification	Year	Total Cost	Acres Per man-days	Per Acre		
				Number Ribes	Number man-days	Cost
Project						
Regular and	1932	$ 26.35	-	.001	-	$ .033
Cooperative	1937	158,50	-	-	-	-
	1938	2.25	490.00	0.12	.002	.0023
	1939	-	-	-	-	-
	1940	40.80	29.2	2.4	0.034	.107
Total		227.90	144.	0.76	0.007	.105
ERA	1936	323.14	1.24	400.0	0.80	$1.75
	1937	733.20	2.08	185.0	0.48	1.58
Total		1,056.34	1.75	243.3	0.57	1.62
Combined Total Regular and ERA		1,284.24	7.25	56.8	0.14	0.46
WPA	1935	5,196.36	10.44	16.7	0.096	0.28
	1936	9,512.51	8.91	14.7	0.112	0.52
	1937	8,553.17	6.77	16.0	0.147	0.45
	1938	5,339.94	1.62	123.0	0.614	1.72
	1939	4,274.56	3.7	27.6	0.268	0.716
	1940	3,829.53	45.8	0.386	1.20	3.18
Total		36,706.07	6.28	21.9	.159	0.46
CCC and ECW	1934	292.00	0.88	292.0	1.12	1.12
	1935	863.00	6.63	47.9	0.15	0.15
	1936	118.00	1.54	169.0	0.65	0.65
	1938	725.00	5.00	8.9	0.20	0.25
	1939	1,430.44	3.87	11.4	0.258	0.688
	1940	1,696.50	3.65	28.2	0.273	0.416
Totals		5,124.94	4.35	35.8	.23	0.337
FWA	1933	1,684.95	5.98	99.04	0.17	0.89
	1934	8,131.78	48.46	8.3	0.02	0.076
	1935	4,046.89	17.45	6.2	0.057	0.22
Total		13,863.62	35.5	9.3	0.03	0.10
Grand Total		56,978.87	11.2	16.2	.09	.253

SUMMARY OF RIBES ERADICATION IN MARYLAND
By Years and Ownership 1932 to 1940 inclusive

Table 4

Classification	Year	Acreage Worked	Number of Ribes Destroyed: Wild	Culti.& Escaped	Total	Total man-days labor
YEAR	1932	800	-	1	1	-
	1933	1,890	187,465	5	187,470	316
	1934	107,164	966,075	1,062	96 ,137	2,498
	1935	42,862	697,553	1,904	699,457	3,700
	1936	30,168	543,986	1,296	545,282	3,613
	1937	19,557	388,569	755	389,324	3,041
	1938	6,966	405,931	154	406,085	2,481
	1939	8,043	186,746	2,462	189,208	2,176
	1940	7,651	261,847	205	262,052	2,362
Total		225,101	3,637,172	7,844	3,645,016	20,149
Ownership						
Federal	1936-1939	1,433	232,691	1,972	234,663	817
	1940	3,030	192,339	199	192,538	1,232
Total	1936-1940	4,463	425,030	2,171	427,201	2,049
State	1932-1939	33,639	786,540	366	786,906	5,245
	1940	2,471	28,541	6	28,547	514
Total	1932-1940	36,110	815,081	372	815,453	5,759
Municipal	1932-1939	11,640	-	538	538	8
	1940	150	225	-	225	1
Total	1932-1940	11,790	225	538	763	9
Private						
	1932-1939	170,738	2,356,094	4,763	2,360,857	11,717
	1940	2,000	40,742	-	40,742	615
Total	1932-1940	172,738	2,396,836	4,763	2,401,599	12,332
Grand Total		225,101	3,657,172	7,844	3,645,016	20,149

Classification	Year	Total Cost	Acres per-man-days	Per Acre: Number Ribes	Number man-days	Cost
	1932	$ 26.38	-	0.001	-	$0.033
	1933	1,684.95	5.98	99.04	0.17	0.89
	1934	8,423.78	42.9	9.01	0.02	0.079
	1935	10,106.25	11.5	16.81	0.09	0.235
	1936	9,953.65	8.3	18.07	0.11	0.33
	1937	9,444.87	6.4	19.9	0.155	0.48
	1938	6,067.19	2.79	58.3	0.356	0.87
	1939	5,705.00	3.8	23.5	0.26	0.71
	1940	5,566.83	3.2	34.2	0.31	0.727
Total		56,978.87	11.2	16.2	0.09	0.253
Ownership						
Federal	1936-1940	2,381.04	1.4	163.5	0.57	1.66
	1940	3,021.34	2.4	63.8	0.40	0.997
Total	1936-1940	5,402.38	2.2	95.7	0.46	1.19
State	1932-1939	14,729.93	6.4	23.4	0.16	0.44
	1940	878.55	4.8	11.6	0.21	0.355
Total	1932-1940	15,608.45	6.3	22.6	0.16	0.43
Municipal	1932-1939	35.95	1450.0	0.04	0.0007	0.003
	1940	3.13	150.0	1.5	0.006	3.13
Total	1932-1940	39.08	1310.0	0.06	0.0007	0.003
Private	1932-1940	34,265.07	14.6	13.8	0.07	0.20
	1940	1,663.81	3.2	20.3	0.31	0.83
Total	1932-1940	35,928.88	14.0	13.9	0.07	0.208
Grand Total		56,978.97	11.2	16.2	0.09	0.253



Heavy growth of Ribes (wild gooseberries) eradicated by the E. C. W. in Garrett County, Maryland.
Roll 54 - 24 Photo by H. E. Yost

H - 17.1

SUMMARY OF RIBES ERADICATION IN 1940
By Working, Project and Ownership
North Carolina

Table I

Classification	Acreage Worked	Number of Ribes Destroyed			Number 8 hour man days
		Wild	Cultivated	Total	
BY WORKING					
Initial Work	21,052	165,280	1,948	167,228	1,418
Rework*	47,622	165,030	4,100	169,130	3,652
	68,674	330,310	6,048	336,358	5,070
BY PROJECT					
Regular	794	-	126	126	31
WPA (Fed)	20,700	138,378	1,974	140,352	1,108
" (State)	47,052	161,129	3,948	165,077	3,465
Total	67,752	299,507	5,922	305,429	4,573
ECW	128	30,803	-	30,803	466
Grand Total	68,674	330,310	6,048	336,358	5,070
BY OWNERSHIP					
Federal					
Pisgah N.F.	12,789	42,480	606	43,086	1,509
Great Smoky Mts. N. P.	1,011	30,803	-	30,803	477
All Federal	13,800	73,283	606	73,889	1,986
Private	54,874	257,027	5,442	262,469	3,084
Grand Total	68,674	330,310	6,048	336,358	5,070

*All second working, there being no third or fourth working

Classification	Number 8 hour man-days	Number Acres Total Cost per man-days		Per Acre Number Ribes	Per Acre Number Man-days	Per Acre Cost
BY WORKING						
Initial Work	1,418	$ 3,672.08	14.8	7.94	.067	$0.174
Rework	3,652	8,325.77	13.1	5.55	.076	0.175
Grand Total	5,070	11,997.85(1)	13.6	4.9	.074	0.174
BY PROJECT						
Regular	31	$ 97.25	25.6	0.16	0.039	$0.121
WPA (Fed)	1,108	2,932.79	18.68	6.77	.053	0.141
" (State)	3,465	8,034.81	13.29	3.5	.074	0.17
Total	4,573	10,968.60	14.8	4.51	0.068	0.162
ECW	466	933.00	0.27	240.0	3.65	7.29
Grand Total	5,070	$11,997.85(1)	13.6	4.9	.074	$0.174
BY OWNERSHIP						
Federal						
Pisgah N.F.	1,509	3,436.03	8.47	3.36	.118	0.265
Great Smoky Mts.	477	965.74	2.22	30.5	.472	0.955
Tot. All Federal	1,986	4,401.77	6.94	5.35	.144	0.319
Private	3,084	7,596.08	17.8	4.79	0.056	0.138
Grand Total	5,070	11,997.85(1)	13.6	4.9	0.074	0.174

(1)Erroneously reported in omnibus table 4 as $11794.88

SUMMARY OF RIBES ERADICATION BY WORKING AND YEARS 1933-1940 INCLUSIVE
North Carolina

Table 2

Classification	Year	Acres	Number of Ribes Destroyed			Total man-days labor
				Cultivated	Total	
INITIAL WORKING	1933	29,570	360	-	360	415
	1934	582,610	14,823	85,499	100,322	2,818
	1935)		147,954	108,989	256,943	7,884
	1936)	953,221	321,160	313,232	634,392	12,046
	1937)		180,529	53,628	234,157	4,590
	1938)		116,199	22,642	138,841	2,259
	1939	354	48,069	86	48,155	895
	1940	21,052	165,280	1,948	167,228	1,418
Total		1,586,807	994,374	586,024	1580,398	32,325
SECOND WORKING	1935)		-	4,119	4,119	147
	1936)		30,311	37,417	67,728	2,490
	1937)	1,549,118	3,547	27,370	30,917	3,052
	1938)		27,059	3,803	70,862	1,205
	1939	86,168	131,886	2,129	184,015	4,339
	1940	47,622	165,030	4,100	169,130	3,652
Total		1,682,908	407,833	78,938	486,771	14,885
THIRD WORKING	1938	67	-	2,746	2,746	149
Grand Total		3,269,782	1,402,207	667,708	2,069,915	47,359

Classification	Year	Total Cost	Number Acres per man-days	Per Acre Number Ribes	Per Acre Number man-days	Per Acre Cost
INITIAL WORKING	1933	$1,828.48	7.11	.012	.014	$.0619
	1934	15,325.44	206.74	.173	.0048	.026
	1935)	22,337.27				
	1936)	26,367.70	35.55	1.326	.028	.063
	1937)	7,656.55				
	1938)	4,716.78				
	1939	1,923.64	0.40	136.0	2.53	5.42
	1940	3,672.08	14.8	7.94	.067	.174
Total		83,819.94	49.0	.999	.02	.0528
SECOND WORKING	1935)	830.56				
	1936)	11,301.01				
	1937)	6,007.61	224.7	.086	.0044	.0131
	1938)	2,328.98				
	1939	9,495.78	19.8	2.14	.052	.11
	1940	8,325.77	13.1	3.55	.076	.175
Total		38,289.71	113.1	.289	.088	.0227
THIRD WORKING	1938	311.46	.45	41.0	2.22	4.65
Grand Total		122,421.11	69.04	.633	.0144	$.0374

SUMMARY OF RIBES ERADICATION BY YEAR AND PROJECT 1933 to 1940 INCLUSIVE

North Carolina

Table 3

Classification	Year	Acres	Number of Ribes Destroyed			Total man-days labor
			Wild	Cultivated	Total	
BY YEARS	1933	29,570	360		360	415
	1934	582,610	14,823	85,499	100,322	2,818
	1935	588,360	147,954	113,108	261,062	8,031
	1936	976,673	351,471	350,649	702,120	14,536
	1937	680,954	184,076	80,998	265,074	7,642
	1938	256,419	143,258	29,191	172,449	3,613
	1939	86,522	229,955	2,215	232,170	5,234
	1940	68,674	330,310	6,048	336,358	5,070
Total		3,269,782	1402,207	667,708	2069,915	47,359
BY PROJECT						
WPA (Federal)	1935	241,189	138,936	71,303	210,239	6,743
	1936	971,478	350,781	348,380	699,161	14,431
	1937	569,405	182,909	73,661	256,570	6,479
	1938	208,202	133,746	26,899	160,645	3,445
	1939	55,543	150,733	2,027	153,760	2,440
	1940	20,700	138,378	1,974	140,304	1,108
Total		2,066,517	1095,483	524,244	1619,679	34,646
WPA (State)	1939	30,437	30,662	3	30,665	1,837
	1940	47,052	161,129	3,948	165,125	3,465
Total		77,489	191,791	3,951	195,790	5,346
WPA(Fed & State	1935	241,189	138,936	71,303	210,239	6,743
	1936	971,478	350,781	348,380	699,161	14,431
	1937	569,405	182,909	73,661	256,570	6,479
	1938	208,202	133,746	26,899	160,645	3,445
	1939	85,980	181,395	2,030	183,425	4,321
	1940	67,752	299,507	5,922	305,429	4,573
Total		2,144,006	1287,274	528,195	1815,469	39,992
ECW & CCC	1933	29,570	360	-	360	415
	1934	24,598	1,163	269	269	155
	1937	111,549		7,337	8,504	1,163
	1939	354	48,069	86	48,155	895
	1940	128	30,803	-	30,803	466
Total		166,199	80,399	7,692	88,091	3,094
REGULAR AND COOPERATIVE	1936	5,195	690	2,269	2,959	105
	1938	48,217	9,512	2,292	11,804	168
	1939	183	491	99	590	18
	1940	794	-	126	126	31
Total		54,394	10,693	4,786	15,479	(1) 322
PWA	1934	558,012	14,823	85,230	100,053	2,663
	1935	347,171	9,018	41,805	50,823	1,288
Total		905,183	23,841	127,035	150,876	3,951
GRAND TOTAL		3,269,782	1402,207	667,708	2069,915	47,359

(1) Through error the Omnibus Table figures read 321.

SUMMARY OF RIBES ERADICATION BY YEARS AND PROJECT 1933-1940 INCLUSIVE
North Carolina

Table 3 (continued)

Classification	Year	Total Cost	Number Acres per man-days	Per Acre Number Ribes	Per Acre Number man-days	Per Acre Cost
BY YEARS	1933	$ 1,828.48	71.3	0.01	0.01	$0.061
	1934	15,323.44	206.6	0.17	0.0048	0.026
	1935	23,167.83	73.2	0.44	0.0136	0.039
	1936	37,668.71	67.2	0.709	0.015	0.038
	1937	13,658.16	91.5	0.389	0.011	0.20
	1938	7,357.22	71.0	0.674	0.0191	0.288
	1939	11,419.42	16.3	2.68	0.06	0.13
	1940	11,997.85	13.6	4.9	0.074	0.174
Totals		122,421.11	69.04	.633	.0144	.0374
BY PROJECT						
WPA(Fed.)	1935	14,779.59	35.7	0.87	0.028	.061
	1936	37,346.71	67 2	0.72	0.014	.029
	1937	12,347.25	87.9	0.45	0.011	0.022
	1938	7,100.37	60.3	0.77	0.0165	0.034
	1939	4,662.04	22.68	2.75	-	.084
	1940	2,932.79	18.68	6.77	.0439	0.141
Totals		79,168.75	59.65	.784	.053	.039
WPA(State)	1939	4,698.77	16.18	1.006	.0618	.154
	1940	8,034.81	13.29	3.5	.008	0.17
Totals		12,733.58	14.49	2.526	.067	.1709
WPA (Fed & State)						
	1935	14,779.59	35.7	0.87	0.028	.061
	1936	37,346.71	67.2	0.72	0.014	.029
	1937	12,347.25	87.9	0.45	0.011	0.022
	1938	7,100.37	60.3	0.77	0.165	0.034
	1939	9,360.81	19.9	2.13	0.05	0.109
	1940	10,968.60	14.8	4.51	0.068	0.162
Totals		91,903.33	53.61	.8467	.0195	.0429
ECW & CCC	1933	1,828.48	71.2	0.01	0.012	0.025
	1934	786.20	161.0	0.01	0.006	0.032
	1937	1,310.91	95.8	0.077	0.010	0.012
	1939	1,423.64	.39	136.	2.53	5.42
	1940	933.00	0.27	240.	3.65	7.29
Totals		6,782.23	53.71	.53	.0186	.0408
Reg. & Coop.	1936	322.00	4.9	0.57	0.202	.062
	1938	256.85	287.0	0.25	0.0037	.0053
	1939	154.97	11.05	3.14	0.09	0.72
	1940	97.25	25.6	0.16	0.039	.0121
Totals		811.07	168.92	.284	.006	.0148
PWA	1934	14,537.24	209.0	0.18	0.004	0.026
	1935	8,388.24	209.0	0.14	0.004	0.025
Total		22,925.48	229.0	0.17	0.004	0.025
GRAND TOTAL		$122,421.11	69.04	.633	.0144	$.0374

SUMMARY OF RIBES ERADICATION BY OWNERSHIP AND YEARS 1933 to 1940 INCLUSIVE
North Carolina

Table 4

Ownership	Year	Acreage Worked	Number of Ribes Destroyed			Total man-days labor
			Wild	Cultivated	Total	
Federal						
National Forests						
	1933	27,560	227	-	227	403
	1934	24,598	269	-	269	155
	1936	29,332	242	2,651	2,893	160
	1937	141,596	107,365	9,253	116,618	2,605
	1938	54,709	114,262	738	115,000	1,807
	1939	42,100	116,543	19	116,562	3,457
	1940	12,789	42,480	606	43,086	1,509
Total		332,684	381,388	13,267	394,655	10,096
National Parks	1933	2,010	133	-	133	12
Great Smoky	1937	14,285	3,909	-	3,909	263
Mountains	1939	12,287	48,069	86	48,155	931
	1940	1,011	30,803	-	30,803	477
Total		29,593	82,914	86	83,000	1,683
Indian Reservation	1938	100	-	-	-	1
Subtotal Federal lands		362,377	464,302	13,353	477,655	11,780
State and	1937	160	-	-	-	1
Municipal	1938	95	-	226	226	5
	1939	1	-	-	-	-
	1940	-	-	-	-	-
Total		256		226	226	6
Private	1934	558,012	14,554	85,499	100,053	2,663
	1935	588,360	147,954	113,108	261,062	8,031
	1936	947,341	351,229	347,998	699,227	14,376
	1937	524,913	72,802	71,745	144,547	4,773
	1938	201,515	28,996	28,227	57,223	1,800
	1939	32,134	65,343	2,110	67,453	846
	1940	54,874	257,027	5,442	262,469	3,084
Totals		2,907,149	937,905	654,129	1,592,034	35,573
Grand Totals		3,269,782	1,402,207	667,708	2,069,915	47,359

SUMMARY OF RIBES ERADICATION BY OWNERSHIP AND YEARS 1933 to 1940 INCLUSIVE
North Carolina

Table 4 (continued)

Classification	Year	Total Cost	Number Acres per man-days	Per Acre		
				Number Ribes	Number man-days	Cost
Federal						
National Forests	1933	$ 1,627.65	68.3	0.008	0.015	$0.059
	1934	786.20	158.7	0.01	0.006	0.032
	1936	474.08	183.3	0.099	0.005	0.016
	1937	3,543.81	54.3	0.82	0.018	0.025
	1938	3,812.13	30.3	2.1	0.033	0.069
	1939	6,761.06	12.2	2.77	0.08	0.16
	1940	3,436.03	8.5	3.36	0.118	.269
Totals		20,440.96	32.9	1.19	0.03	.0614
National Parks	1933	200.83	167.5	0.066	0.066	0.10
	1937	792.88	54.3	0.27	0.018	0.055
	1939	1,923.64	13.2	3.92	0.07	0.16
	1940	965.74	2.1	30.5	0.472	.955
Total		3,883.09	17.6	2.8	.0569	.131
Indian Reservation	1938	24,324.79	30.76	1.32	.0325	.067
State and Municipal						
	1937	7.47	160.0	-	0.006	0.047
	1938	8.48	19.0	2.38	0.053	0.089
	1939	0.34	-	-	-	0.34
	1940	-	-	-	-	-
Total		16.29	42.7	0.88	0.023	0.064
Private	1934	14,537.24	269.5	0.18	0.048	0.026
	1935	23,167.83	72.2	0.44	0.014	0.039
	1936	37,194.63	65.9	0.74	0.015	0.039
	1937	9,314.00	109.8	0.28	0.009	0.018
	1938	3,535.87	111.6	0.28	0.0089	0.017
	1939	2,734.38	37.9	2.10	0.036	0.085
	1940	7,596.08	17.8	4.79	0.056	0.995
Totals		98,080.03	81.72	.551	0.0122	.0337
Grand Total		122,421.11	69.04	.633	.0144	.0374

ERADICATION DATA ON NATIONAL FORESTS IN NORTH CAROLINA

BY FOREST 1933 to 1940

Table 5

National Forest	Total Acreage of White Pine	Control Areas	Acreage not yet worked initially
Nantahala	23,442	55,103	-
Pisgah	27,301	131,197	-
Total	50,743	196,300	-

Forest	Initial Eradication Work			Reeradication Work		
	Acreage Worked	No. Ribes Destroyed	No. 8 hr. man-days	Acreage Worked	No. Ribes Destroyed	No. 8 hr.man-days
Nantahala	55,103	393	494	-	-	-
Pisgah	131,197	220,424	3,173	146,384	173,838	6,427
Total	196,300	220,817	3,667	146,384	173,384	6,427

Forest	Totals - Initial and Rework			
	Acreage Worked	Number Ribes Destroyed	8 hour man-days	Total Cost
Nantahala	55,103	393	494	not given
Pisgah	277,581	394 ,262	9,600	- -
Total	332,684	394,655	10,094	20,440.96

Note: In 1940 all eradication work was on the Pisgah National Forest. For data on agency carrying on the work in the National Forest in 1940 see omnibus tables 5, sheets 6 and 7 on pages A-10, 11.

SUMMARY OF RIBES ERADICATION IN 1940
By Working, Project and Ownership

Tennessee

Table 1

Classification	Acreage Worked	Number of Ribes Destroyed			Number man-days
		Wild	Culti.	Total	
BY WORKING					
Initial Work	207,887	258,614	15,167	273,781	2,648
Rework	2,948	16,663	-	16,663	251
Total	210,835	275,277	15,167	290,444	2,899
BY PROJECT					
WPA Federal	81,833	274,977	15,067	290,044	1,599
" State	112,382	-	-	-	912
Total	194,215	274,977	15,067	290,044	2,511
ECW	16,620	300	100	400	388
Total	210,835	275,277	15,167	290,444	2,899
BY OWNERSHIP					
Cherokee N. F.	58,602	87,524	3,420	90,944	1,145
Great Smoky N.P.	22,870	-	-	-	63
Total	81,472	87,524	3,420	90,944	1,208
Private (1)	129,363	187,753	11,747	199,500	1,691
GRAND TOTAL	210,835	275,277	15,167	290,444	2,899

(1) No work was conducted on State Lands in 1940

Classification	Total Cost	Number Acres per man-day	Per Acre		
			Number Ribes	Number Man-Days	Cost
BY WORKING					
Initial Work	$7,311.26	78.4	1.31	.0127	$.035
Rework	584.15	11.75	5.65	.0851	.20
Total	7,895.41	72.7	1.38	.0137	.037
BY PROJECT					
WPA Federal	4,764.93	51.2	3.54	.0195	.058
" State	2,228.64	123.1	-	.0081	.02
Total	6,993.57	77.3	1.49	.0129	.036
ECW	901.84	42.8	.024	.023	.542
Total	7,895.41	75.2	1.38	.0137	.037
BY OWNERSHIP					
Cherokee N. F.	2,949.81	51.2	1.55	.0195	.05
Great Smoky N.P.	144.00	362.8	-	.0028	.006
Total	3,093.81	67.4	1.12	0.0148	.038
Private	4,801.60	76.5	1.54	.013	.037
GRAND TOTAL	$7,895.41	75.2	1.38	.0137	$ .037

SUMMARY OF RIBES ERADICATION BY WORKING AND YEAR 1933 to 1940 Inclusive

Tennessee

Table 2

Classification	Year	Acreage Worked	Number of Ribes Destroyed			Total man-days labor
			Wild	Culti.	Total	
Initial Work	1933	10,720	62,832	40	62,872	382
	1934	101,588	64,041	1,255	65,296	1,230
	1935	47,768	264,408	2,840	267,248	1,576
	1936	100,515	1,232,578	27,444	1,260,022	4,558
	1937	122,040	1,236,656	62,291	1,298,947	8,328
	1938	130,289	1,585,440	62,668	1,648,108	10,773
	1939	116,191	648,915	28,970	677,885	9,204
	1940	207,887	258,614	15,167	273,781	2,648
Total		836,998	5,353,484	200,675	5,554,159	38,699
Second Work(1)	1935	879	57,228	-	57,228	74
	1936	1,928	55,116	-	55,116	200
	1937	791	32,596	-	32,596	482
	1938	134	4,182	-	4,182	57
	1939	15,308	9,281	60,073	69,354	1,057
	1940	2,948	16,663	-	16,663	251
Total		21,988	175,066	60,073	235,139	2,121
GRAND TOTAL		858,986	5,528,550	260,748	5,789,298	40,820

(1) If there was any third working it has been included with second working

Classification	Year	Total Cost	No. Acres Per man-day	Per Acre		
				Number Ribes	No. Man-days	Cost
Initial Work	1933	$ 1,048.83	28.1	5.86	0.035	$0.098
	1934	6,971.82	82.8	0.64	0.012	0.068
	1935	4,160.64	30.4	5.59	0.035	0.087
	1936	7,915.90	22.0	11.5	0.045	0.078
	1937	14,404.00	14.7	10.64	0.068	0.118
	1938	24,267.60	12.0	12.6	0.083	0.186
	1939	25,487.86	12.6	5.83	0.08	0.219
	1940	7,311.26	78.4	1.31	0.013	0.035
Total		91,567.91	21.6	6.63	0.046	0.109
Second Work	1935	313.13	11.9	77.5	0.084	0.356
	1936	261.12	9.6	28.6	0.104	0.134
	1937	870.04	1.6	41.2	0.609	1.09
	1938	129.39	2.3	31.2	0.425	.964
	1939	2,825.26	14.5	4.5	0.06	.184
	1940	584.15	11.75	5.65	0.085	.20
Total		4,983.09	10.5	10.7	0.095	$0.226
GRAND TOTAL		96,551.00(2)	21.0	6.74	0.047	0.112

(2) This is an increase of $19.00 over $96,532.00 reported in Omnibus Table which latter will be corrected in 1942

SUMMARY OF RIBES ERADICATION BY PROJECT 1935-1940
TENNESSEE

Table 3

Classification (By Project)	Year	Acreage Worked	Number of Ribes destroyed Wild	Culti.	Total	No. 8 hour man-days
WPA (Federal)	1935	15,439	192,845	2,077	194,922	1,108
	1936	102,263	1,265,572	27,444	1293,016	4,739
	1937	122,831	1,269,252	62,291	1331,543	8,810
	1938	130,425	1,589,622	62,668	1652,290	10,830
	1939	110,381	658,196	89,043	747,239	9,536
	1940	81,833	274,977	15,067	290,044	1,599
Total		563,170	5,250,464	258,590	5509,054	36,622
WPA (State)	1940	112,382	-	-	-	912
All WPA	1935-1939	481,337	4,975,487	243,523	5219,010	35,023
All WPA	1940	194,215	274,977	15,067	290,044	2,511
Total	1935-1940	675,552	5,250,464	258,590	5509,054	37,534
ECW and CCC	1933	10,720	62,832	40	62,872	382
	1934	12,050	14,610	-	14,610	297
	1935	406	11,527	104	11,631	36
	1936	180	22,122	-	22,122	19
	1939	21,118	-	-	-	725
	1940	16,620	300	100	400	388
Total		61,094	111,635	244	111,635	1,847
PWA	1934	89,538	49,431	1,255	50,686	933
	1935	32,802	117,264	659	117,923	506
Total		122,340	166,695	1,914	168,609	1,439
GRAND TOTAL		858,986	5,528,550	260,748	5,789,298	40,820

(1) This is an increase of $19.00 over $96,532.00 reported in omnibus Table 4A due to an error in 1936, which will be corrected in 1942

Classification (By Project)	Year	Total Cost	Number Acres per man-days	Per Acre Number Ribes	No. man-days	Cost
WPA (Federal)	1935	2,001.29	13.9	12.6	0.072	$0.144
	1936	8,158.32	21.6	12.6	0.046	0.08
	1937	15,274.04	13.9	10.84	0.071	.124
	1938	24,396.99	12.0	12.67	0.083	0.187
	1939	26,836.37	11.6	6.77	0.086	0.243
	1940	4,764.93	51.2	3.54	0.0195	0.058
Total		81,431.94	15.4	9.8	0.065	0.144
WPA(State)	1940	2,228.64	123.1	-	0.0081	0.02
All WPA	1935-1939	76,694.01	13.37	10.85	0.073	0.159
All WPA	1940	6,993.57	77.3	1.49	0.013	0.036
Total	1935-1940	83,687.58	18.0	8.15	0.056	0.124
ECW and CCC	1933	1,048.83	28.0	5.86	0.035	0.098
	1934	720.09	40.5	.13	0.024	0.059
	1935	73.25	11.3	28.65	0.088	0.225
	1936	18.70	9.47	122.9	0.105	0.104
	1939	1,449.75	29.1	-	0.034	0.068
	1940	901.84	42.8	0.02	0.023	0.542
Total		4,212.46	33.1	1.84	0.031	0.07
	1934	6,251.73	96.0	0.56	0.0104	0.069
	1935	2,399.23	64.8	3.59	0.015	0.073
Total		8650.96	85.0	1.37	0.018	0.078
Grand Total		$96,551.00(1)	21.0	6.74	0.047	0.112

(1) See above

(1) par ajouter

SUMMARY OF RIBES ERADICATION BY YEAR AND OWNERSHIP 1933-1940 Inclusive
TENNESSEE

Table 4

Classification	Year	Acreage Worked	Number of Ribes Destroyed			Total man-days labor
			Wild	Cultivated	Total	
(By Years)	1933	10,720	62,832	40	62,872	382
	1934	101,588	64,041	1,255	65,296	1,230
	1935	48,647	321,636	2,840	324,476	1,650
	1936	102,443	1,287,694	27,444	1,315,138	4,758
	1937	122,831	1,269,252	62,291	1,331,543	8,810
	1938	130,423	1,589,622	62,668	1,652,290	10,330
	1939	181,499	658,196	89,043	747,239	10,261
	1940	210,499	275,277	15,167	290,444	2,899
Total through 1940		858,986	5,528,550	260,748	5,789,298	40,820
OWNERSHIP(Federal)	1933	8,895	62,830	26	62,856	184
Cherokee N. F.	1934	11,970	185	-	185	216
	1936	860	258,796	3,134	261,930	89
	1937	47,045	182,712	75	182,787	1,500
	1938	54,388	584,485	1,525	586,010	3,878
	1939	31,364	506,820	3,000	509,820	3,582
	1940	58,602	87,524	3,420	90,944	1,145
Subtotal (Cherokee)		213,124	1,683,352	11,180	1694,532	10,595(1)
Great Smokies N.P.	1933	1,825	2	14	16	198
	1940	22,870	-	-	-	63
Subtotal (Great Smokies)		24,695	2	14	16	261
Total Federal		237,819	1,683,354	11,194	1694,548	10,856
Private	1934	89,618-	63,856	1,255	65,111	1,014
	1935	48,647	321,636	2,840	324,476	1,650
	1936	101,583	1,028,898	24,310	1053,208	4,669
	1937	75,786	1,086,540	62,216	1148,756	7,302
	1938	76,035	1,005,137	61,143	1066,280	6,952
	1939	100,135	151,376	86,043	237,419	6,678
	1940	129,363	187,785	11,747	199,500	1,691
Total Private		621,167	5,345,196	249,554	4,094,750	29,964
GRAND TOTAL		858,986	5,528,550	260,748	5,789,298	40,820

(1) Through error the Omnibus Table 5a lists this as 10,596.

SUMMARY OF RIBES ERADICATION BY YEAR AND OWNERSHIP

1933 to 1940 Inclusive

Tennessee

Table 4 (continued)

Classification	Year	Total Cost	No. Acres Per Man-day	Per Acre Number Ribes	Per Acre Number Man-days	Per Acre Cost
Year	1933	$ 1,048.83	28.0	5.86	0.035	$0.098
	1934	6,971.82	82.5	0.64	0.012	0.068
	1935	4,473.77	29.5	6.67	0.034	0.092
	1936	8,177.02	21.5	12.84	0.046	0.08
	1937	15,274.04	13.9	10.84	0.071	0.124
	1938	24,396.99	12.04	12.67	0.083	0.187
	1939	28,313.12	12.8	5.68	0.078	0.215
	1940	7,895.41	75.2	1.38	0.0137	0.037
Total through 1940		96,551.00	20.6	6.74	0.047	0.112
OWNERSHIP						
Cherokee N. F.	1933	848.68	48.3	7.06	0.020	0.095
	1934	633.44	55.4	0.015	0.018	0.053
	1936	120.22	9.75	304.57	0.103	0.139
	1937	3,173.76	31.30	3.88	0.032	0.067
	1938	8,138.99	14.02	10.78	0.071	0.149
	1939	9,882.73	8.70	16.25	0.114	0.315
	1940	2,949.81	51.2	1.55	0.019	0.05
Subtotal(Cherokee)		25,747.63	20.1	7.94	0.05	0.121
Great Smokies N.P.	1933	200.15	9.2	0.009	0.108	0.109
	1940	144.00	362.8	-	0.0028	0.006
Subtotal(Great Smokies)		344.15	94.5	.0006	0.011	0.014
Total Federal		26,091.78	21.9	7.12	0.046	0.109
Private	1934	6,338.38	8.9	0.726	0.011	0.070
	1935	4,473.77	29.4	6.67	0.034	0.092
	1936	8,056.80	21.8	10.36	0.046	0.079
	1937	12,100.28	10.4	15.15	0.096	0.159
	1938	16,258.00	10.93	14.02	0.091	0.214
	1939	18,430.39	14.90	2.37	0.067	0.184
	1940	4,801.60	76.5	1.54	0.013	0.037
Total Private		70,459.22	20.75	6.59	0.048	0.114
GRAND TOTAL		96,551.00	21.0	6.74	0.047	$0.112

SUMMARY OF DATA ON WHITE PINE, CONTROL AREA AND ACREAGE WORKED INITIALLY(1)

TENNESSEE

Table 5

Total Estimated Acreage of White Pine December 31, 1940	Acreage White Pine Worth Protecting	Acreage Control Areas White Pine Plus Control Zones	Acreage Reported Worked Initially
527,200(1)	527,200	874,500	836,998

(1) Data From Omnibus Table 1A, Page A-12. The estimate of white pine acreage may be raised by surveys in 1941

Acreage of White Pine Protected Initially, By County

County	White Pine Acreage Protected through 1940
Bledsoe	643
Blount	1,969
Campbell	40
Carter	61,467
Cocke	15,384
Cumberland	31,439
Fentress	46,112
Greene	30,995
Hamilton	283
Johnson	93,298
Monroe	973
Morgan	64,075
Pickett	800
Polk	10,727
[illegible]	2,903
Roane	169
Scott	60,174
Sullivan	36,822
Sevier	10,886
Unicoi	26,794
Union	4
Washington	6,262
Total	502,219

Data by
R. D. Tanksley
2/20/40

SUMMARY OF RIBES ERADICATION VIRGINIA
By Working, Project and Ownership

Table 1

Classification	Acreage Worked	Number of Ribes Destroyed			No. 8 hour man-days
		Wild	Cultivated	Total	
BY WORKING					
Initial Work	79,380	436,521	976	437,497	3,497
Rework	24,102	358,410	955	359,365	5,120
Total	103,482	794,931	1,931	796,862	8,617
Second Work	22,692	356,360	955	357,315	5,077
Third Work	1,410	2,050	-	2,050	43
BY PROJECT					
WPA (Federal)	29,112	117,532	113	117,645	1,804
WPA (State)	72,427	621,678	1,818	623,496	5,783
Total	101,539	739,210	1,931	741,141	7,587
ECW	1,943	55,721	-	55,721	1,030
Total	103,482	794,931	1,931	796,862	8,617
BY OWNERSHIP					
G. W. N. F.	47,520	432,179	5	432,184	3,572
Jefferson N. F.	165	2,811	-	2,811	30
Subtotal N. F.	47,685	434,990	5	435,995	3,602
Shenandoah N. P.	6,912	223,736	1,447	225,183	2,961
Total Federal	54,597	658,726	1,452	660,178	6,563
Municipal) State) Private)	48,885	136,205	479	136,684	2,054
TOTAL	103,482	794,931	1,931	796,862	8,617

Classification	Total Cost Without Transportation	Including Transportation etc($6000)	Acres Per man-days	Number Ribes	No.8 hour man-days	Cost
BY WORKING						
Initial Work	$ 7,983.86	$11,856.86	22.7	5.5	.044	$0.149
Rework	11,845.18	12,972.18	4.7	14.9	.21	0.538
Total	19,829.04	24,829.04	12.0	7.7	.083	0.24
Second Work	11,728.91	12,790.55	4.5	15.8	.22	.564
Third Work	116.27	181.63	32.7	1.5	.03	0.129
BY PROJECT						
WPA (Federal)	4,263.65	6,263.65	16.0	4.0	.062	0.215
WPA)State)	13,670.89	16,670.89	12.5	8.6	.08	0.23
Total	17,934.54	22,934.54	13.4	7.3	.076	0.226
ECW	1,894.50	1,894.50	18.9	28.7	.53	0.97
Total	19,829.04	24,829.04	12.0	7.7	.083	0.24
BY OWNERSHIP						
G. W. N. F.	8,388.64	10,714.64	13.3	9.1	.075	0.225
Jefferson N. F.	89.50	99.50	55.	17.0	.182	0.603
Subtotal N. F.	8,478.14	10,814.14	13.2	9.1	.075	0.227
Shenandoah N. P.	6,262.74	6,521.74	2.3	32.6	.428	0.973
Total Federal	14,740.88	17,335.88	8.3	12.1	.12	0.317
Municipal) State) Private)	5,088.16	7,493.16	-	2.8	.042	0.153
TOTAL	$19,829.04	24,829.04	12.0	7.7	.083	0.24

SUMMARY OF RIBES ERADICATION BY WORKING AND OWNERSHIP 1928-1940

Virginia

Table 2

Classification	Year	Acreage Worked	No. of Ribes Destroyed			Total man-days
			Wild	Cultivated	Total	
WORKING						
First	1928-1939	603,340	4,790,751	53,944	4,844,695	55,605
	1940	79,380	436,521	976	437,497	3,497
	1928-1940	682,720	5,227,272	54,920	5,282,192	59,102
Rework	1928-1939	52,564	1,466,042	256	1,466,298	18,100
	1940	24,102	358,410	955	359,363	5,120
	1928-1940	76,666	1,824,452	1,211	1,825,663	23,220
Total All Workings	1928-1940	759,386	7,051,724	56,131	7,107,855	82,322
Second Working	1928-1940	67,744	1,744,313	1,211	1,745,524	21,408
Third Working	1928-1940	8,922	80,139	-	80,139	1,812
Total Second and Third Workings		76,666	1,824,452	1,211	1,825,663	23,220
O W N E R S H I P (Fed)						
G. W. N. F.	1928-1940	147,618	-	-	1,416,008	17,841
Jefferson N. F.	"	39,480	-	-	1,344,679	12,455
Subtotal Nat'l Forests		187,098	-	-	2,760,687	30,296
Shenandoah N.P.		36,675	-	-	2,095,458	21,252
Total Federal		223,773	-	-	4,856,145	51,548
State Municipal and Private		535,613	-	-	2,251,710	30,774
GRAND TOTAL		759,386	-	-	7,107,855	82,322

(1) The Omnibus Tables give $175,007.92 for total cost in Virginia. This discrepancy will be corrected in 1941

Classification	Year	Total Cost	Acres Per man-day	Per Acre		
				Number Ribes	Number Man-days	Cost
WORKING						
First	1928-1939	$118,203.56	10.83	8.04	0.09	$0.197
	1940	11,856.86	22.7	5.5	0.044	0.149
	1928-1940	130,060.42	11.6	7.9	0.088	0.190
Rework	1928-1939	31,202.97	2.9	27.8	0.34	0.59
	1940	12,972.18	4.7	14.9	0.21	0.538
	1928-1940	44,175.15	3.3	23.9	0.30	0.576
Total All Workings	1928-1940	$174,235.57(1)	9.2	9.5	0.11	0.23
Second W'kng.	1928-1940	41,108.36	3.16	25.77	0.316	0.61
Third "	1928-1940	3,066.79	4.92	8.98	0.203	0.34
Total Second and Third Workings		44,175.15	3.3	23.9	0.30	0.576
OWNERSHIP (Federal)						
G.W.N.F.	1928-1940	-	8.27	9.59	0.12	-
Jefferson	1928-1940		3.16	34.06	0.315	-
Subtotals Nat'l Forests		57,422.09	6.17	14.76	0.16	0.30
Shenandoah N. Park		46,228.29	1.72	57.13	0.579	1.27
Total Federal		103,650.38	4.34	21.70	0.23	0.463
State Municipal and Private		70,585.19	17.42	4.20	0.057	0.13
GRAND TOTAL		$174,235.57(1)	9.2	9.5	0.11	$0.23

(1) The Omnibus Tables give $175,007.92 for total cost in Virginia. This discrepancy will be corrected in 1941.

SUMMARY OF RIBES ERADICATION BY PROJECT 1928-1940 Inclusive

Virginia

Table 3

Classification	Year	Acres	Number of Ribes Destroyed			Total man-days labor
			Wild	Culti.	Total	
P R O J E C T						
Regular	1928-1940	10,299	61,450	2	61,452	179
C. C. C.	" "	89,239	1,975,694	731	1,976,425	23,393
P. W. A.	" "	124,400	720,048	21,227	741,275	5,471
State WPA	" "	78,891	750,595	2,230	752,825	9,029
Federal WPA	" "	456,557	3,543,807	31,941	3,575,373	44,250
Total	" "	759,386	7,051,724	56,131	7,107,855	82,322
Subtotal All WPA	" "	535,448	4,294,532	34,171	4,328,703	53,279

Classification	Year	Total Cost	Acres per man-days	Per Acre		
				Number Ribes	Number man-days	Cost
P R O J E C T						
Regular	1928-1940	$ 1,286.27	57.54	5.97	.017	$0.125
C. C. C.	" "	45,176.37	2.62	22.15	.262	.506
P. W. A.	" "	26,465.31	22.74	5.96	.043	.212
Fed. WPA	" "	76,094.24	10.32	7.83	.096	.167
State WPA	" "	25,213.38	8.74	9.54	.114	.319
Total	" "	174,235.57	9.22	9.36	.108	.229
Subtotal all WPA		$101,307.62	10.05	8.08	.099	$.189

SUMMARY OF RIBES ERADICATION IN 1940
By Working, Project and Ownership
West Virginia

Table 1

Classification	Acreage Worked	Number of Ribes Destroyed			No. 8 hour man-days
		Wild	Cultivated	Total	
BY WORKING					
Initial Work	95,441	1,175,692	4,628	1,180,320	6,801
Rework	12,447	206,145	81	206,226	1,527
Total	107,888	1,381,837	4,709	1,386,546	8,328
BY PROJECT					
Regular	-	-	-	-	-
State WPA	65,872	452,761	2,556	455,317	3,854
Federal WPA	32,072	882,034	2,075	884,109	3,317
All WPA	97,944	1,334,795	4,631	1,339,426	7,171
ECW	9,944	47,042	78	47,120	1,157
Total	107,888	1,381,837	4,709	1,386,546	8,328
BY OWNERSHIP					
Federal	17,997	257,653	-	257,653	1,638
State	1,675	11,220	-	11,220	63
Private	88,216	1,112,964	4,709	1,117,673	6,627
Subtotal non-federal	89,891	1,124,184	4,709	1,128,893	6,690
TOTAL	107,888	1,381,837	4,709	1,386,546	8,328

Classification	Total Cost	Number Acres Per man-day	Per Acre		
			Number Ribes	Number Man-days	Cost
BY WORKING					
Initial Work	$22,248.36	14.02	12.37	.071	$0.23
Rework	5,119.25	8.14	16.57	.123	0.41
Total	27,367.61	12.95	12.85	.077	0.25
BY PROJECT					
Regular	-	-	-	-	-
State WPA	11,757.31	17.1	6.91	.058	0.18
Federal WPA	11,405.72	9.67	27.6	.104	0.36
All WPA	23,163.03	13.66	13.7	.073	0.23
ECW	4,204.58	8.59	4.73	.163	0.42
Total	27,367.61	12.95	12.85	.077	0.25
BY OWNERSHIP					
Federal	5,030.40	10.97	14.33	.091	0.28
State	187.00	26.5	16.7	038	.11
Private	22150.21	13.3	12.66	.075	.25
Subtotal non-federal	22,337.21	13.4	12.55	.074	.248
Total	$27,367.61	12.95	12.95	.07	$.25

SUMMARY OF RIBES ERADICATION BY WORKING AND PROJECT
1932 to 1940 Inclusive
West Virginia

Table 2

Classification	Year	Acreage Worked	Number of Ribes Destroyed			No. 8 hour man-days
			Wild	Culti.	Total	
BY WORKING						
First	1932-1939	553,205	3,122,911	13,832	3,136,743	29,482
	1940	95,441	1,175,692	4,628	1,180,320	6,801
Total	1932-1940	648,646	4,298,603	18,460	4,317,063	36,283
Second	1932-1939	53,536	253,543	9	253,551	2,523
	1940	12,447	206,145	81	206,226	1,527
Total	1932-1940	65,983	459,688	89	459,777	4,050
Grand Total		714,629	4,758,291	18,549	4,776,840	40,333
BY PROJECTS						
WPA	1935-1939	482,955	2,432,542	8,233	2,440,775	21,267
	1940	32,072	882,034	2,075	884,109	3,317
Total Federal WPA		515,027	3,314,576	10,308	3,324,884	24,584
State WPA	1940	65,872	452,761	2,556	455,317	3,854
Total All WPA		580,899	3,767,337	12,864	3,780,201	28,438
ECW & CCC						
	1932-1939	73,771	580,015	904	580,919	8,084
	1940	9,944	47,042	78	47,120	1,157
Total ECW & CCC		83,715	627,057	982	628,039	9,241
PWA	1934-1935	46,045	341,031	4,703	345,734	2,410
Total Emergency Projects		710,659	4,735,425	18,549	4,753,974	40,089
Regular	1932-1939	3,970	22,866	-	22,866	244
	1940	-	-	-	-	-
GRAND TOTAL ALL PROJECTS		714,629	4,758,291	18,549	4,776,840	40,333

Classification	Year	Total Cost	Acres Per man-days	Per Acre		
				Number Ribes	Man-days	Cost
BY WORKING						
First	1932-1939	$ 96,314.12	18.75	5.67	0.053	$.17
	1940	22,248.36	14.02	12.37	0.071	.23
Total	1932-1940	118,562.48	17.88	6.65	.056	.185
Second	1932-1939	7,492.00	21.19	4.74	0.047	.14
	1940	5,119.25	8.14	16.57	.123	.41
Total	1932-1940	12,611.25	16.28	6.97	.061	.19
Grand Total		131,173.73	17.72	6.68	.056	.182
BY PROJECT						
Fed. WPA						
	1935-1939	74,510.57	22.6	5.0	.044	.154
	1940	11,405.72	9.67	27.56	.103	.356
Total Federal WPA		85,916.29	20.9	6.45	.047	.167
STATE WPA	1940	11,757.31	17.1	6.91	.058	.178
Total All WPA		97,673.60	20.4	6.5	.049	.168
ECW & CCC	1932-1939	16,981.18	9.12	7.89	.11	.23
	1940	4,204.58	8.6	4.78	.116	.42
Total ECW & CCC		21,185.76	9.06	7.5	.11	.25
PWA	1934-1935	11,497.30	19.1	7.5	.053	.25
Total Emergency Projects		130,356.66	17.75	6.64	.056	.182
Regular	1932-1939	817.07	16.27	5.75	.061	.206
	1940	-	-	-	-	-
GRAND TOTAL ALL PROJECTS		$131,173.73	17.72	6.68	.056	.182

SUMMARY OF RIBES BY PROJECT AND YEAR 1932-1940 INCLUSIVE
WEST VIRGINIA

Table 3

Classification	Year	Acres	Number of Ribes Destroyed			Total man-days labor
			Wild	Culti.	Total	
YEAR	1932	268	2	-	2	no data
	1933	4,256	60,748	-	60,748	635.0
	1934	33,184	131,679	3,386	135,065	1,908.0
	1935	36,940	402,505	2,027	404,532	3,062.0
	1936	86,928	376,039	394	376,433	5,827.5
	1937	189,093	640,252	1,297	641,549	8,209.0
	1938	159,218	819,411	4 132	823,843	7,140.0
	1939	96,854	945,818	2,304	948,122	5,224.0
	1940	107,888	1,381,837	4,709	1386,546	8,328.0
Total		714,629	4,758,291	18,549	4776,840	40,333.0
OWNERSHIP						
G. W. N. F.	1940	17,997	257,653	-	257,653	1,638
G. W. N. F.	1932-1940	60,723	571,885	6	571,891	5,163
Monongahela	1932-'40	79,393	375,655	179	375,834	3,757
Total Federal		140,116	947,540	185	947,725	8,920
State	1932-1940	13,055	101,078	58	101,136	760
Private	1932-1940	561,458	3,709,673	18,306	3727,979	30,653
Total non-Federal		574,513	3,810,751	18,364	3829,115	31,413
GRAND TOTAL		714,629	4,758,291	18,549	4776,840	40,333

Classification	Year	Total Cost	Acres per man-day	Per Acre Number Ribes	Per Acre Number Man-days	Per Acre Cost
Year	1932	$ 24.35	-	.0075	-	$0.091
	1933	1,332.75	6.7	14.25	0.149	0.313
	1934	7,575.61	17.4	4.07	0.057	0.228
	1935	10,529.74	12.1	10.95	0.083	0.285
	1936	17,057.00	14.7	4.34	0.067	0.196
	1937	27,205.55	23.0	3.4	0.043	0.143
	1938	24,446.19	22.3	5.16	0.045	0.153
	1939	15,634.93(1)	18.5	9.9	0.054	0.161
	1940	27,367.61	12.95	12.85	0.07	0.25
Total		131,173.73	17.72	6.68	0.056	0.182
Ownership						
G. W. N. F.	1940	5,030.40	10.97	14.33	0.091	0.28
G. W. N. F.	1932-1940	12,742.72	11.75	9.4	0.085	0.21
Monongahela	1932-1940	11,120.58	21.12	4.73	0.047	0.14
Total Federal		23,863.30	15.72	6.71	0.063	0.169
State	1932-1940	2,098.70	17.18	7.74	0.058	0.161
Private	1932-1940	105,211.73	18.3	6.64	0.055	0.187
Total nonfederal		107,310.43	18.3	6.66	0.057	0.187
GRAND TOTAL		$131,173.73	17.72	6.68	0.056	$0.182

(1) Reduction from $15,866.23, of $231.30, credit for cultivated bushes pulled in

SUMMARY OF DATA ON WHITE PINE CONTROL AREA AND ACREAGE WORKED INITIALLY
WEST VIRGINIA

Table 4

1932-1940

Total Estimated Acreage of White Pine December 31, 1940	Acreage White Pine Worth Protecting	Acreage Control Areas White Pine Plus Protective Zone	Acreage Reported Worked Initially
300,000	275,000	740,000	648,646

SUMMARY OF ERADICATION DATA FOR NATIONAL FORESTS

National Forest	Acreage Worked in 1940			White Pine Acreage in National Forests (Estimated)
	First Working	Second Working	Total	
George Washington	13,937	4,060	17,997	21,000
Monongahela	-	-	-	29,000

National Forest	Acreage of National Forest in Control Area (Estimated)	Acreage Worked Initially	Second Working
George Washington	50,000	46,939	13,784
Monongahela	80,000	75,694	3,699

For additional data on ribes destroyed on each forest in each working, and number of 8 hour man-days - See Table 5A, Sheets 9 and 10, on Page A-23 of Omnibus Tables.

NURSERY SANITATION

NURSERY SANITATION

DELAWARE

SUMMARY OF NURSERIES INSPECTED FROM 1938 to 1940 FOR BLISTER RUST

Nursery	Quadrangle	County	Block number	Pine	Ribes removed
Pine Grove	Wyoming	Kent	21	94	40
Bunting	Wyoming	Kent	52	24	-
Killen	Harrington	Kent	18	2	-
Caulk*	Dover City	Kent	8	1	38
James	Seaford	Sussex	5	1	2
Buntings	Ocean City	Sussex	1	-	850 not removed
DelMarvia	Cedar Creek	Sussex	17	352	13
State	Cedar Creek	Sussex	19	52,500	-
W. E. Phelps	Wilmington City	New Castle	58	63	-

*Caluks Nursery and one other was inspected in 1940, the State Forestry Nursery.

MARYLAND

During the year six nurseries were inspected and nine cultivated ribes were destroyed. In addition to the six nurseries, it was found that the Soil Conservation Service had established a nursery at Beltsville. This was examined in December, but since the surrounding zone cannot be thoroughly checked for wild or cultivated ribes this was not included on the table as a nursery worked during the year. The State Department of Forestry established a new nursery near the railroad station at College Park to take the place of the one that was abandoned at Sunnyside in 1938. It is planned to grow all of the white pine in this branch nursery. Since comparatively few houses are present, it will be the better location from a blister rust standpoint. 270,000 white pine seedlings are in this nursery and the number will in all probability be increased within the next few year.

NURSERY SANITATION, 1940

MARYLAND

Nursery	Location	Control Acreage Worked	Ribes destroyed			No. white pines in nursery
			Wild	Culti.	Total	
Small	Norbeck	525	-	-	-	1,000
Gude	Rockville	600	-	-	-	2,500
Rock Creek	Rockville	620	-	1	1	250
Quaint Acres	Burnt Mills	375	-	-	-	50
Towson	Towson	900	-	-	-	2,064
State	College Park	200	-	8	8	270,000
S. C. S.	Beltsville	(Preliminary examination only, made 12/40 to be completed spring of 1941.)				
Total				9	9	275,864

All of the above work was performed by State Leader Yost and charged to supervision.

NORTH CAROLINA

Nursery	Location	Control Acreage Worked	Number of Ribes pulled	No. of white pines in nursery
Anthony Lake	Pineola	179.5	18	4,000
Linville	Linville	250.0	-	125
Robins	Pineola	31.0	23	900

Note: All nursery sanitation in 1940 was rework.

VIRGINIA

Nursery sanitation for 1940 was confined to the northern half of the state, in the known infection zone in order to combine blister rust scouting with the nursery inspections.

The Waynesboro Nursery was inspected by Superintendent Early on September 10, and one yellow flowering currant Ribes odoratum sprout was removed. 236 white pines were in the nursery. 250 acres were worked. No wild bushes were found.

The Wescott Nursery was worked by Agent Luce on September 23. There were 810 white pines in the nursery. 200 acres were worked and 21 cultivated ribes destroyed. These ribes were all previously located, but had not been eradicated despite yearly attempts to do so. These bushes were at three locations. Two of the ribes patches

had been eradicated by their owners, while the third was pulled by the agent. This leaves, as far as is known, only 17 cultivated Ribes vulgare at the Lawrence Wescott Nursery. Our attempts to remove these bushes will be continued vigorously.

Forman's Nursery Was worked by Agent Luce on September 24. 150 pines were in the nursery. 200 acres were worked and 25 escaped Ribes reclinata(gooseberries) were pulled at the former eradication site.

No blister rust on ribes or pine was found at the nurseries inspected.

NURSERY SANITATION IN VIRGINIA - 1940

Counties	Nurseries	Location	Initial or Rework	Number of Pine
Fairfax	Westcott's	Falls Church	Re-work	810
Fairfax	Forman's	Washefield Chapel	"	150
Augusta	Waynesboro	Waynesboro	"	236
Albemarle	State Forest Tree	Charlottesville	"	225,000
Totals				226,196

Nursery	Acreage examined	Number of Ribes Destroyed Wild	Culti.	Total	Agent man-days	Federal Costs
Westcott	200	-	21	21	1	$8.00
Forman's	200	25	-	25	1/2	3.50
Waynesboro	250	-	1	1	1/2	3.50
Albemarle	200	-	-	-	1/2	4.00
Totals	850	25	22	47	2 1/2	19.00

REPORT OF SANITATION WORK AT
U. S. FOREST SERVICE NURSERY
Parsons, W. Va.

1940

Introduction

To protect white pine nursery stock from blister rust the U. S. Forest Service in cooperation with the U. S. Bureau of Entomology and Plant Quarantine has conducted a ribes suppression project at the U. S. Forest Service Nursery at Parsons, W. Va., since 1929. The aim of this project is to establish eventually a ribes-free area encompassing the nursery grounds and all adjacent land within 1500 feet of the nursery, and meanwhile to suppress ribes growth to a point consistent with safety for the young white pine plants. In accordance with this aim, beginning in 1929, and each year thereafter the area of the control zone has been systematically covered at least once by persons whose objective was to search for and destroy ribes bushes wherever found.

Discussion of the 1940 work

In 1940 ribes eradication work at the nursery was begun on May 6 and was continued without interruption until June 8 on which date the entire 633 acres within the 1500 control boundary had been covered. Following a practice begun in 1939, the work was done this year by a single trained scout, Mr. R. G. Pennington, who has been associated with the sanitation work at the nursery as a scout or foreman of an eradication crew since the project was started. He is, therefore, familiar with not only the details of the work but also with all sections of the area to be covered. Mr. Pennington was assisted by one other man in working the cliff on the south bank of the Blackwater River opposite the nursery.

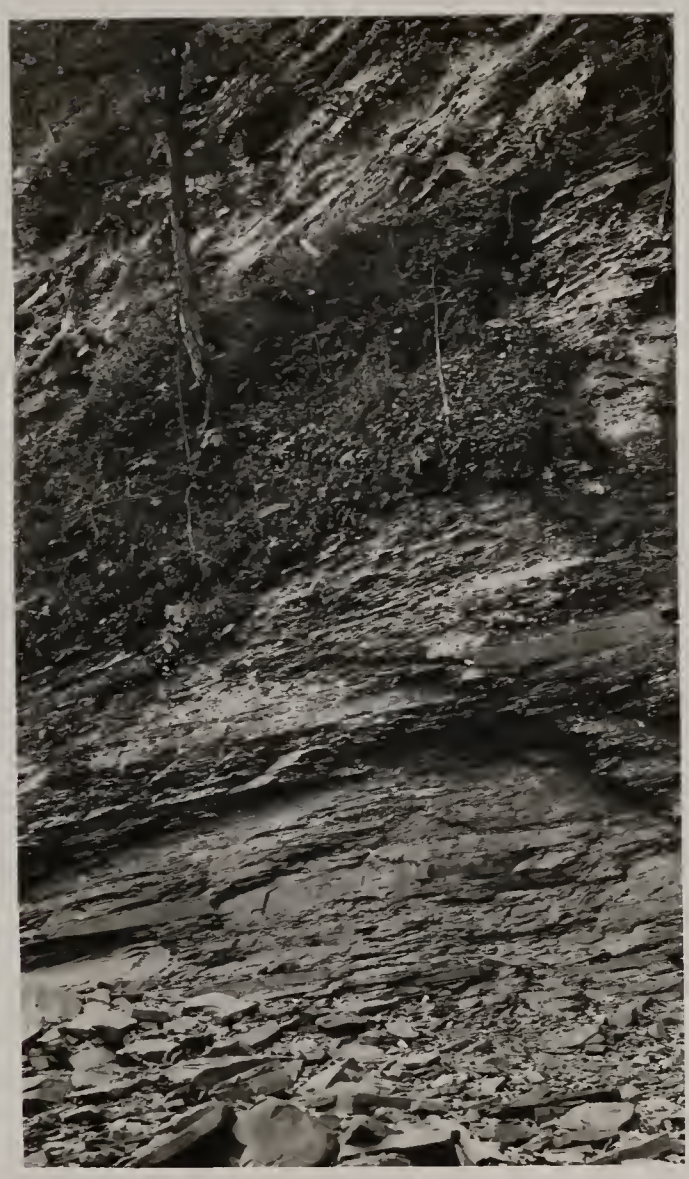
The reason for using a single scout rather than a crew is that the job has reached the point where it is one of maintenance. In the last few years the number of bushes found within the control zone has averaged less than one per acre. Bushes found are usually sprouts from roots broken in former eradication or from seedlings. For this type of eradication it is believed a single trained man will do work of a better quality.

At the time the work was done the nursery had 21,000 white pine transplants.

Control Data

The total number of bushes pulled in the 633 acres of the control zone numbered 407. Of these 401 were wild gooseberry bushes and six were flowering currant sprouts. The latter were pulled in block 30. Except for a very few bushes growing in dense thickets of greenbrier vines, and missed in former years, those found were either sprouts or small bushes one, two or three years old. With 280 hours of labor used, the average number of acres worked per hour was 2.26.

A table showing the number of bushes by blocks follows.



BRC #6144 Ribes grew on the steep slopes of the Blackwater River opposite the Parsons Nursery, W. Virginia.

Cost

The only expense was for wages. This expense was borne from the regular budgetary allotment to the nursery.

216 hours at	$ .55	$118.80
64 hours at	.40	25.60
280 hours		$144.40

Bushes pulled at Parsons Nursery May 6, - June 8, 1940

Block Number	Ribes Wild	Ribes Culti.	Total
2	106		
3	51		
4	9		
7 C and E	54		
7 H	6		
10	7		
12	12		
13	5		
14	11		
30	2	6	
32	2		
38 A	47		
38 B	11		
39 A	30		
41	21		
41 A	1		
41 B	13		
	388	6	
New Area	13		
Totals	401	6	407

CUMULATIVE SUMMARY OF RIBES SUPPRESSION
PARSONS NURSERY, PARSONS, WEST VIRGINIA
Showing Ribes Eradicated by Blocks and Years

Block Number	Ribes destroyed by years								
	1929 to 1937		1938		1939		1940	Total	
	Culti.	Wild	Culti.	Wild	Culti.	Wild	Wild	Culti.	Wild
1		591		40					631
1A		100							100
2		4,700		60		95	106		4,961
3		446				262	51		759
4 and 5 CA-D	1	82				1	9	1	92
7B		43				6			49
7C & E		439				49	54		533
7D & F-G		4,981		16		8			5,005
7H & 13		1,452		2		3	11		1,468
8									
9		76							76
10		47				4	7		58
11									
12	1	3	6		3	8	12		23
13(combined with 7H)									
14	14	114					11	14	125
14A	314	79						314	79
15		111		2					113
16		32							32
17A	15							15	-
17B									
18		3							3
19A	2							2	
19B		119							119
20		2							2
21	3	6						3	6
22		34							34
22A	17	1						17	1
23	1							1	
24	22	1						22	1
25A									
25B									
26		54							54
27		11							11
28		33							33
29A		11							11
29B									
29C									
Ext.1*	390	15,571	6	120	3	427	261	399	14,379

*North slope of Turkey Knob

CUMULATIVE SUMMARY OF RIBES SUPPRESSION
at
Parsons Nursery, Parsons, West Virginia
Showing Ribes Eradicated
by Blocks and Years

Block Number	1929 to 1937		1938		1939		1940		Total	
	Culti.	Wild	Culti.	Wild	Culti.	Wild	Culti.	Wild	Culti.	Wild
Forwarded	390	13571	6	120	3	427	-	261	399	14379
29D										
29E	28	5							28	5
30	1	42			6	3	6	2	13	47
31	3			2					3	2
32		4		12				2		18
32A		126								126
32B		2								2
32C		9								9
32D		12								12
32E		104				2				106
32F		27								27
33	3	16							3	16
34	1	32							1	32
35										
35A										
35B										
35C										
35D										
35E										
36	1	110							1	110
37A	44		3						47	
37B		119								119
38A		1181		2		43		47		1273
38B		317	15	6				11	15	334
39A		4	3			2		30	3	36
39B & C	2	21							2	21
39D		75								75
39E										
39F										
39G	9								9	
39H		190								190
40	22	33	10			8			32	41
40A	14								14	
41	11	682						21	11	703
41A	4	534		1				1	4	535
41B	10	19		29		35		13	10	96
NA-1(1)		741						13		754
NA-2(2)		159		170						329
EXt.-2**		1000		2252		5118				8370
Total	543	19135	37	2594	9	5638	6	401	595	27768

(1) Eastward extension of control zone North of the River
(2) Eastward extension of control zone South of the River
** Ridge between Roaring Run and Hambleton-Parsons Road

CANKER ELIMINATION

CANKER ELIMINATION

IN

VIRGINIA

In the
George Washington National Forest

One area in Highland County and four areas in Augusta County were worked by the Federal Project and five areas in Rockingham County were worked by the non-Federal Project in 1940. All work was confined to the Dry River and Deerfield districts.

The totals for 1940 are as follows:

1,218	Acres worked	6,516 branch cankers
146,027	trees examined	598 stem cankers
2,342	trees treated	306 8-hour man-days
223	trees cut down	$775.19 costs

The totals for 1918-1940 are as follows:

3,568	acres treated	84,951 branch cankers
483,162	trees examined	2,829 stem cankers
15,340	trees treated	1,846 8-hour man-days
2,517	trees cut down	$3,448.80 costs

Shenandoah National Park

Under the supervision of the National Park Service the Civilian Conservatio Corps carried on canker elimination on seven white pine areas in four counties in the Shenandoah National Park during 1940. No canker elimination work was done by the Work Projects Administration within the Park boundaries.

The Pinnacles, Hughes River Gap and Lewis Mountain areas were worked for the first time. The Hawksbill Mountain and Big Meadow areas were worked the second time, and the Elk Wallow area was worked for the third time.

The totals for 1940 are as follows:

346 acres treated	3,728 branch cankers
3,540 trees examined	658 8-hour man-days
1,016 trees treated	$111.00 costs
44 trees cut down	70 stem cankers

Canker Elimination on the George Washington National Forest in Virginia 1940 Work Projects Administration

Name of Area	County	Acres Worked	Number of trees Examined	Treated	Cut down	Cankers removed Branch	Stem	Working	No. 8-hr. man-days	Costs
Braleys Branch	Augusta	175	14,391	1,038	64	3,683	64	2nd	41	$107.83
Locust Spring	Highland	3	714	12	11	29	11	2nd	11	25.41
Michaels Run	Augusta	170	19,264	60	24	268	24	2nd	12	29.40
Skidmore	Augusta	90	9,769	65	10	223	10	2nd	9	23.42
Shiflett Plantation	Augusta	245	38,947	170	42	648	42	2nd	31	89.93
Worked by Federal Project		683	83,085	1,345	151	4,851	151		104	$289.01
West Rigleman Place	Rockingham	180	43,947	853	54	1,355	263	2nd	106	286.24
Mongold Hollow	Rockingham	125	10,932	22	-	25	-	1st	33	82.80
Cold Spring River	Rockingham	100	4,828	82	-	113	6	1st	14	33.30
Big & Little Bear Hol.	Rockingham	100	500	4	18	17	1	1st	19	48.48
Camp Rader Run	Rockingham	50	2,735	36	-	155	197	2nd	30	75.36
Worked by non-Federal Project		535	62,942	997	72	1,665	447	-	202	506.18
GRAND TOTAL		1,218	146,027	2,342	223	6,516	598	-	306	$775.19

CANKER ELIMINATION ON THE SHENANDOAH NATIONAL PARK - NATIONAL PARK SERVICE

Civilian Conservation Corps.

1940

	CCC man-days	Pines examined	Pines cut down	Pines treated	Cankers Removed Branch	Cankers Removed Stem	Areas Acres
Elkwallow	31	888	18	276	968	10	30
Pinnacles-	4	545	1	16	24	1	45
Hughes River Gap	3	149	2	41	212	7	15
Skyland	16	377	7	129	789	7	59
Hawksbill Mtn.	17	752	12	366	1,217	22	35
Big Meadows	14	758	4	188	518	23	150
Lewis Mtn.	2	71	-	-	-	-	12
Totals	87	3,540	44	1,016	3,728	70	346

Canker Elimination on Private Land and on all Lands by all Agencies 1940

The first workings on private lands were in Highland and Rockingham counties. All second workings were confined to Rockingham County.

Through a misunderstanding these private lands were worked despite the ruling that canker elimination should be confined to federal lands. However, these private lands were within the Forest Service boundaries and in most cases were entirely surrounded by Forest Service land. It is very probable that they will shortly be purchased by the Forest Service.

All work done on the private land was done by the Work Projects Administration

The totals for 1940 are as follows: Private land

Acreage treated	Number Trees Treated	Number Trees Examined	Branch Cankers	Stem Cankers	8-hour man-days	Cost
535	310	13,689	692	259	105	$269.04

The totals for 1940 are as follows: All lands all agencies

Acreage Treated	Number Trees Examined	Number Trees Treated	Number Trees Removed	Cankers Removed Branch	Cankers Removed Stem	No. 8 hour man-days
2,099	163,256	3,668	267	10,936	927	476

PREERADICATION

SURVEYS

PREERADICATION SURVEY

White pine surveys were extensively carried on during 1940 in Georgia, North Carolina, Tennessee, Virginia and West Virginia. Surveys made in Maryland were carried on for the most part in conjunction with post checking with most of the work being confined to Garrett County where old pine area maps and records were revised and corrected from the checker's maps.

In the 1939 Regional Annual Report five items were listed on pages 99 and 100 relative to several definite procedures necessary to follow in connection with preeradication surveys. Most of the procedures so listed have been carried out, the fulfillment of which are now being realized and it is expected that by the end of 1941 practically all initial survey and most re-survey work will be completed.

Since much of the old survey work was based more or less on empirical estimates, especially on ribes free areas, it was found advisable to wait in building up a permanent control record system until certain obvious errors in acreage figures were adjusted. In 1940 many acreage adjustments were made not only in the matter of total acreage surveyed but also as to land ownership. Where much of our control area lies in national forest boundaries the matter of land ownership will be a changing picture since new federal land purchases are continually being made. However, it is now felt that we can go ahead and start building up our permanent control system and plan to start work on this activity in 1941.

Following is a brief summary of preeradication survey activities by states in 1940:

GEORGIA

The mile square grid system of survey was used in Georgia during 1940 in mapping 102,529 acres of white pine worth protecting. The total acreage mapped including white pine and protective zone amounted to 157,046 acres. Compared to 17 per cent federally-owned lands surveyed in 1939, 31 per cent of the total lands surveyed in 1940 was on federal lands.

The bulk of survey work during 1940 was conducted in Fannin, Gilmer, Murray and Rabun counties.

KENTUCKY

No field work was performed in Kentucky in 1940. However it was found advisable to make a re-estimate of the control acreage previously reported. The adjustment was made to bring about a more accurate relationship between acres of white pine and protective zone, on federal and private lands.

MARYLAND AND DELAWARE

Practically all survey work in Maryland during 1940 was re-survey and for the most part carried on in conjunction with post checking. Only 160 acres of control were reported initially surveyed to protect 28 acres of white pine in 1940.

In Delaware 245 acres were spot-mapped in 1940 to protect 44 acres of white pine.

NORTH CAROLINA

Using the grid system of survey, white pine mapping was conducted in five counties in 1940, namely: Avery, Haywood, Mitchell, Watauga and Yancey. A total of 28,368 acres of white pine were mapped considered worth protecting. The control acreage mapped was 67,091. The total cost of survey in North Carolina was $11,384.57 amounting to approximately 17¢ per acre. Since however, 93,258 acres were actually mapped by the survey crews to locate and establish the 67,091 acres of control, the average cost per acre covered was closer to 12¢ per acre rather than 17¢. In view of the fact that over 80 per cent of the control acreage surveyed was ribes-free a figure of even 17¢ per acre is not high since on nearly 56,000 acres this will be the only control cost incurred.

TENNESSEE

White pine survey work was carried on in Carter, Cocke, Greene, Polk, Sevier and Unicoi countied during 1940. By using the Tennessee system of survey in which the crews run strips between base lines from one to two miles apart a total of 82,071 acres were maped incorporating 51,574 acres of white pine worth protecting. In the final analysis, however, the acreage of white pine worth protecting will in all probability be increased since obvious adjustments will have to be made for ribes-free white pine bearing lands where the survey shows less than 50 white pine stems per acre but as yet not recorded as worth protecting.

VIRGINIA

All white pine survey work performed in Virginia during 1940 was accomplished by using the mile square grid system. A total of 55,203 control acres were mapped at an expenditure of 4,144 man-days. Even though considerable acreage surveyed in 1940 was conducted on areas previously mapped by the "Spot" method the new survey cannot in all respects be called a re-survey since the old survey was based for the most part on estimates and not on a systematic coverage. The bulk of the survey work was conducted in Amherst, Augusta, Highland, Page, Rockingham and Shenandoah counties.

Although the grid survey on the Shenandoah National Park is not yet complete, 10,448 acres of control were mapped including 4,771 acres of white pine. The Park Service on the other hand reports 7,350 acres of control incorporating 2,545 acres of white pine.

This acreage difference is due to the fact that the Park Service is only contemplating protecting their white pine within the immediate vicinity of recreational areas, camp sites, scenic areas, etc. As old area are further developed and new areas opened up for public use the control areas will be extended. The logical thing to do, of course, would be to protect all the white pine in the Park now but the close budgeting of CCC labor on the various Park projects greatly curtails extensive blister rust control operations. The only way to counteract this difficulty would be to have our crews conduct ribes eradication on areas or those portions of areas not included in the Park Service work plan. Because of the prevalence of the disease in the Park all efforts should be made to complete the initial ribes eradication on all white pine areas if it is done for no other reason than to protect the young growth.

WEST VIRGINIA

With an estimated 740,000 control acreage and 729,023 control acreage surveyed and mapped in West Virginia very little survey work remains to be done and should be 100 per cent completed by the end of 1941. Some re-survey work may however be necessary on ribes-bearing lands where the original maps and records appear inadequate. The re-survey work can be carried on through post checks.

In 1940 a total of 65,359 control acreage was mapped including 24,523 acres of white pine worth protecting.

PREERADICATION SUMMARY BY STATES 1940

State	White Pine Mapped	Control Acres Mapped	White Pine Worth Protecting	Survey 8 hour man-days	Cost of Survey	Survey Cost per acre
Delaware	44	245	44	39	8.49	0.03
Georgia	102,529	157,046	102,529	2,940	8,666.90	0.05
Maryland	28	160	28	159(1)	555.22(1)	(1)
N. C.	28,368	67,091	28,368	4,634	11,384.57	0.17
Tennessee	69,749	82,071	51,574	6,879	18,157.88	0.12
Virginia	(2)	55,203	(2)	4,144	9,783.36	0.18
W. Va.	24,788	65,359	24,523	1,644	5,098.08	0.08
Totals	225,506	427,175	207,066	20,439	53,654.50	0.13

(1) Man-days and costs include work on acreage resurveyed in Garrett County. Acreage resurveyed not shown.

(2) Acreage white pine not increased due to previous estimate. Final adjustment to be made.

PREERADICATION SUMMARY BY STATES 1918-1940 INCLUSIVE

State	Estimated Control Acreage	Control Areas Surveyed and mapped	Per cent Estimated Control Acres Surveyed and mapped	Acres White Pine Worth Protecting	Net Control Acres Protected	Survey 8 hour man-days	Survey Cost per acre surveyed
Dela.	4,267	4,267	100	194	4,267	449	0.40
D. C.	1,875	1,875	100	25	1,875	(1)	-
Ga.	997,058(3)	915,846	92	470,000	825,232	10057	0.03
Ky.	80,565(3)	80,565(4)	100	62,147	80,565	(2)	-
Md.	212,000(3)	208,124	98	75,721-	175,038	1767	0.03
N. C.	1702,766	1,631,149(5)	96	658,723	1586,807	27849	0.04
S. C.	29,635	29,635 (4)	100	15,137	29,635	(2)	-
Tenn.	874,500(3)	850,263	97	527,200	836,998	21954	0.06
Va.	731,704	723,658	99	256,769	682,720	15066	0.06
W. Va.	740,000	729,023	98	275,000	648,646	17149	0.09
Totals	6,374,370	5,174,405	96	2,350,916	4871,783	94291	0.05

(1) Charged to supervision
(2) Charged to Eradication
(3) Re-estimate
(4) No detailed field mapping done
(5) Based on Teague's latest survey figures

C O O P E R A T I O N

C O O P E R A T I O N

GEORGIA

Mr. Zimmer writes:

Cooperation from the public has been very good again this year and seems to be improving from year to year. This I accredit to the educational instructions and publicity given our project. Interest in fair exhibits and in pamphlets and a larger number of persons have furnished information regarding the location of ribes. This especially has been the case in Rabun County as to cultivated ribes.

County officials in counties where work is being conducted have shown a willingness toassist us and have been quite helpful. Gilmer County has furnished office space in the court house at Ellijay during the entire year. This office was vacated on December 26, 1940, and office space, including lights and heat, is now being furnished by Fannin County in the court house at Blue Ridge.

Mr. M. S. Yeomans, State Entomologist and State Cooperator has shown much interest in our program this year and has made several field trips. Mr. Milledge Murphey, Assistant Entomologist, has been in the field completing the blister rust film strip which was started last year. All expenses of this film including a trip into Virginia and Maryland for the purpose of obtaining pictures of the disease, has been borne by the State of Georgia. The enlarging of pictures for our annual report, as well as three-panel, portable transparent exhibit, has also been contributed at State expense. All members of Mr. Yeomans' office staff have shown a cheerful willingness to assist us at all times. Stenographic and mimeographing services have been furnished on several occasions and these have proven very helpful.

Cooperation of the Work Projects Administration of Georgia has been especially gratifying. Mr. P. B. Cameron, Area Employment Officer of the Gainesville area, and Mr. W. C. Rees, Employment Officer of the Marietta district, and Mr. W. S. Scherffius, State Officer in Atlanta, have at all times been helpful in matters relating to WPA workers on our project.

Cash expenditures from the State Entomologist Office for our work amounted to $174.40.

MARYLAND

The State Forester of Maryland has continued his close cooperation with our work, providing Mr. Yost space for two desks and his files in the office of District Forester Buckingham at the Allegany Court House in Cumberland.

Cash expenditures in Maryland from State and Private parties amounted to but $24.00 for twine for CCC control work. Arrangements were made for the State Forester to advise Mr. Yost of all orders received for white pine planting stock in counties where wild ribes are prevalent. The planting sites are to be checked and, if necessary the land owners advised to plant some species other than white pine.

Mr. Yost attended a meeting of the Land Use Planning Committee in Garrett County, of which he is a member on March 7.

The Oakland Boy Scouts carried on ribes eradication around their Scout cabins

at Deep Creek Lake, 602 ribes being pulled. It is planned that these scouts will each year work over a portion of the area surrounding their camp, thus maintaining maintenance of control conditions.

In area 36-G in Allegany County eradication of ribes was carried on by the tenant of Mr. Shaw of Lonaconing assisted by Mr. Yost.

The CCC have cooperated very well with our Bureau in eradication and checking, working out 4 camps viz:

Camp S-53, at Green Ridge in Allegany County,
Camp S-51, at Potomac in Garrett County,
Camp S-59, at Swallow Falls in Garrett County, and
Camp S-68 at Meadow Mt.-Savage River in Garrett County.

The Soil Conservation Service forester helped Mr. Yost inspect 10 white pine plantations (3000 trees) near Ellicott City on May 14.

Mr. Robertson, resident warden at the Green Ridge State Forest made an inspection with Mr. Yost of white pine and blister rust control conditions on the forest on December 19.

NORTH CAROLINA

The State of North Carolina through the State Agriculture Department has continued its excellent cooperation with the Bureau, providing $5,000 each fiscal year to assit in the survey and control work. This has been supplemented by the donation of space and the use of equipment in public buildings at Asheville, Elk Park, Newland and Waynesville.

In June, the State Entomologist Mr. Brannon spent two days with Mr. H. B. Teague, State leader in Asheville and in rural points inspecting control work.

In September the North Carolina Commissioner of Agriculture, Mr. W. R. Scott and Mr. Teague traveled through eight counties on an inspection trip of the region, discussed the blister rust program and conferred with members of the State Board of Agriculture regarding it.

The National Park Service cooperated with the Bureau in providing a crew of CCC workers who worked in Cataloochee Creek, putting in 466 8-hour days.

In September, Messrs. J. C. Ball and H. B. Teague traveled to the Cherokee Indian Reservation for a discussion of work plans with Forester Libby. He was on leave, but the arrangement for working the white pine plantations on the reservation wer e to be made through correspondence.

Agent Coulter writes that in July several owners who had previously refused to give up their ribes were contacted, and their bushes were removed after having been given permission. This is excellent cooperation.

TENNESSEE

During the past year the Cherokee National Forest furnished CCC labor, transportation and equipment in Polk County during the peridd January 1 - June 30, 1940.

It was necessary to discontinue the work in Polk County on June 30 due to a reduction in Federal funds. The Cherokee National Forest has also furnished information as to white pine plantings on their watersheds.

The Tennessee Department of Conservation has furnished a cash contribution of $2,000 in connection with the State project. Part of the cash contribution of $2,000 was used in the payment of Mr. Lamb's salary in Polk County.

The Tennessee Valley Authority has supplied us with maps and data on locations of white pine plantings on their watersheds. They have agreed to furnish CCC labor to eradicate any ribes found in or around their plantations, if a CCC Camp is located in the vicinity.

Private land owners have cooperated by allowing the blister rust control agents and workers to enter their property to map white pine and to eradicate wild and cultivated ribes. During 1940 private property owners have allowed us to eradicate 11,747 cultivated ribes around house sites. Approximately 95% of the land owners allow us to pull their cultivated ribes.

VIRGINIA

Assistant State Entomologist C. R. Willey visited State leader J. G. Luce, Jr., in March relative to a visit to the Brocks Gap Section. In the latter part of April, Mr. Willey spent three and a half days in Rockingham County in the inspection of office and field work.

The U. S. Forest Service cooperated with the Bureau in making available for our use as a garage their repair shop of the George Washington National Forest at Bridgewater. This has been worth many hundred dollars. They also loaned us several tents for a spike camp in Brocks Gap. The Postoffice Department cooperated with the Bureau in making available office space for Mr. J. G. Luce State leader in the new federal building at Harrisonburg.

In connection with visitors day at the George Washington National Forest in April in the Harrisonburg Building the blister rust office also held open house, and had a display.

The Park Service cooperated with the Bureau as usual, utilizing men from CCC camps for initial work on 9 areas, and rework on 11 areas. A total of 1198 CCC man-days (valued at 6½ hours each) were used in eradication, 50,640 bushes being removed. In addition, the Park Service utilized CCC men for canker elimination, spending 87 (CCC man-days) They worked 346 acres, examined 3540 pines and treated 1,016 trees, besides removing 44 badly infected trees.

WEST VIRGINIA

The blister rust program in 1940 was conducted by means of the cooperative efforts of at least eight separate agencies. The U. S. Bureau of Entomology and Plant Quarantine was responsible for the prosecution of the program, including formulation of field methods and practices, the maintenance of work standards, and the conditions of employment of labor within the regulations prescribed by the various cooperating agencies, for the expenditures of funds allotted to the program, and for the fiscal records relating thereto.

The Civilian Conservation Corps contributed approximately thirteen hundred

effective man-days of labor in addition to field supervision, transportation, clothing and housing for this labor which was made available through the willingness of the Soil Conservation Corps and the State Division of Forestry to include blister rust work in their program of accredited projects within the CCC program.

The Conservation Commission contributed financially to the blister rust program and as the Collaborating State Agency in the program acted as Sponsor of a State Agency WPA project.

The U. S. Forest Service provided labor for the sanitation work performed in the quarantine zone of the nursery at Parsons, West Virginia. The West Virginia Department of Agriculture is responsible for the administration of the Crop Pest laws under the authority of which blister rust control work is conducted. Services performed by this agency include the granting or withholding of permits to ship nursery stock (including ribes plants), nursery inspection, and the delegation of authorities to personnel of the blister rust program to enter upon private land in furtherance of the blister rust program.

The County Courts of Grant and Pocahontas counties furnished office space without charge in Petersburg and Marlinton, West Virginia, respectively for the use of blister rust personnel. Many private citizens cooperated to the extent of allowing the destruction of cultivated and wild ribes growing on their private premises.

Last but not least the WPA was the major financial contributor. Funds were made available by this agency under two separate projects. One of these was sponsored by the U. S. Bureau of Entomology and the other by the Conservation Commission of West Virginia. Under these two projects the WPA furnished no less than $35,000 of approximately $41,000 expended under the program during the year.

Mention should be made of the progress achieved in efforts to have the State assume a larger financial responsibility for the blister rust program. Up to this year financial aid provided by the State has been allotted from emergency or contingent funds of the contributing State government agencies. No appropriation specifically for blister rust had been requested of the legislature. This year however, the Conservation Commission agreed to include in its budget an item requesting funds for blister rust control work specifically. The amount requested was $10,000 to cover the biennium beginning July 1, 1941.

J. M. Ashcroft

COOPERATION

Region as a Whole

The largest single agency engaged in blister rust control work in the Southern Appalachian States was the Work Projects Administration, contributing in 1940, $189,157.76 or 81.5% of all expenditures. The second largest contributor was the Bureau of Entomology and Plant Quarantine through regular appropriations $16,670.51 or 7.1% of the total. State and cooperative non-federal agencies contributed $14,855.42 or 6.4% of the total, while the ECW contributed $11,559.11 or 5%.

The only other federal agency cooperating in 1940 was the Postoffice Department and the value of their services in providing office space has never been computed. The Postoffice Department, has provided our State Leaders office space at Knoxville, Tennessee and at Charlottesville, and Harrisonburg, Virginia in 1940.

A graph on page C-4 shows these expenditures by agencies.

TRANSPORTATION

TRANSPORTATION

The transportation problem in the Southern Appalachian States has always been a serious one. Only three new trucks have been purchaed since June 1934, when PWA work started. We have secured by loan or transfer the remainder of the fleet of 62 on hand December 31, 1940.

Two garages have been set up in the region, one at Asheville, North Carolina, and the other at Bridgewater, Virginia. Each has been supplied with a very adequate set of tools and equipment. Our main purpose in establishing these repair shops was to reduce the amount of non-labor funds being spent for truck maintenance. Such a reduction has resulted as parts,formerly purchased from local venders at general retail prices, are now purchased at government prices. Also where we formerly paid venders from non-labor funds $1.00 to $1.50 per hour for mechanics' labor this labor is now performed by WPA mechanics whose wages are charged to labor, rather than non-labor funds. We have been rather fortunate in securing good mechanics and the class of work turned out at our garage compares very favorably with that of private companies.

STATEMENT OF TRUCKS AND AUTOS IN USE IN
DELAWARE AND MARYLAND

1 9 4 0

Order number	Engine number	License number	Serial number	Capacity	Make and kind	Year model	Date secured
1	M-57-28086	A6-887	2-FC-116249	1/2 ton	Chevrolet Deluxe	1936	2/15/38
2	M-59034-1-9 (1)	A-1954	14-FC02-14326	Five passenger	Chevrolet sedan	1936	3/3/36
3	T-12-25318	A6-890	80-72368	1/2 ton	Dodge pick-up	1935	12/27/37
4	T-12-25413	A6-889	80-72326	1/2 ton	" " "	1935	12/27/37

Order number	Speedometer reading	Mileage in 1940	Cost per mile	Total cost for calendar year	Number gallons gasoline used	Mileage per gallon gasoline
	12/31/40					
1	70,982	14,572	$0.017	253.19	1,035	14.01
2	61,158	1,128	0.016	180.84	860.1	12.9
3	44,220	6,868	0.014	98.05	522	13.16
4	36,027	6,408	0.014	95.29	470	13.62

N ote: Truck A6-888 Chevrolet stakebody 1½ ton was transferred from Mr. Yost in Maryland to Mr. Luce in Virginia 9/4/40.

(1) This Chevrolet sedan was transferred from Mr. Luce in Virginia to Mr. Yost in Maryland on December 3, 1940

STATEMENT OF TRUCKS [illegible] USED BY COMMERCIAL

1940 *

Order number	Engine number	License number	Serial number	Capacity	Make and kind	Year model	Date secured
1	K57-39097	A2-146, now A5-821	SFB[illegible]892	1/2 ton	Chevrolet pick-up	1939	11/29/3[illegible]
2	T-1225392	62012 now A5-824	8072386	1/2 ton	Dodge pick-up	1935	12/22/3[illegible]
3	T-1225461	A5-820	8072850	1/2 ton	Dodge pick-up	1935	12/22/3[illegible]
4	T-1225871	A5-[illegible]13	8072853	1/2 ton	Dodge pick-up	1935	12/22/3[illegible]
5	T-3750443	44422, now A5-825	6390	1 1/2 ton	Chevrolet stake	1938	12/1[illegible]/3[illegible]

* On December 31, 1940 there were five trucks on hand in Georgia

Order number	Speedometer reading 12/31/40	Mileage in 1940	Number gallons gasoline used	Mileage per gallon	Total cost for calendar year	Cost per mile 1940	Cost per mile 1939	Cost per mile [illegible]
1	56112	7125	[illegible]60	9.2	$195.48	0.027	.037	.026
2	40103	7711	[illegible]68	[illegible].56	204.99	.027	.031	.028
3	37678(1)	19507(2)	[illegible]751	[illegible]1.15	400.52	023	.022	.017
4	50096	7942	[illegible]92	[illegible]0.1	231.59	.029	.019	.021
5	45000	2817	[illegible]445	6.36	151.97	.054	.045	.027

(1) While the speedometer should have read 52850 December 31, 1940 it was out of order and actually read 37678.
(2) 19507 miles is correct mileage for this truck, based on addition of monthly figures for mileage as furnished by Mr. Zimmer 2/13/41

M - [illegible]

STATEMENT OF TRUCKS AND AUTOS IN USE IN NORTH CAROLINA* CALENDAR YEAR 1940

Order number	Engine number	License number	Serial number	Capacity tonnage	Kind and make	Year model	Date purchased or transferred
1	K-5742052	60143 now A11-614	8FD012777	1/2	Chev. Pick-up	1933	12/28/35
2	T-1224144	A4-799 " A11-618	8072460	1/2	Dodge " "	1935	2/21/38
3	T-1224180	A2-579 " A11-613	8072324	1/2	" " "	1935	2/21/38
4	T-1225043	62-046 " A11-609	8072309	1/2	" " "	1935	2/21/38
5	T-1225846	A3-998 " A11-610	8072265	1/2	" " "	1935	12/28/37
6	T-1225854	A2-975 " A11-611	8072392	1/2	" " "	1935	12/28/37
7	T-1225986	A2-974 " A11-619	8072243	1/2	" " "	1935	2/21/38
8	T-1226063	A3-997 " A11-615	8072387	1/2	" " "	1935	2/21/38
9	T-1226243	A2-578 " A11-616	8072247	1/2	" " "	1935	12/28/37
10	T-1226369 (1)	A5-822 " A11-612	8072487	1/2	" " "	1935	12/22/37
11	T-1226504	6245 " A11-617	8072430	1/2	" " "	1935	2/21/38
12	T-3719311 (2)	43009 " A11-620	6731	1-1/2	Chev. Stake	1933	5/15/36
13	T-3737187	44-419	6535	1 1/2	" "	1933	11/16/37
14	T-3764138(3)	A3-996	7025	1 1/2	" "	1933	11/16/37

* Note. On December 31, 1940 there were 14 trucks on hand in North Carolina

(1) Truck was transferred to North Carolina from Georgia in August 1940

(2) " " " " " " " " West Virginia April 4, 1940

(3) This ton and half truck is unserviceable and will be disposed of in 1941 under Board of Survey.

North Carolina Truck Reports
(continued)

Calendar Ye ar 1940

Order number	Speedometer reading	Mile-age in 1940	Number gallons gasoline used	Number miles per gallon gasoline	Total cost for year	Cost per mile 1940	1939	193[illegible]
1	50952	8833	784	11.3	$212.17	.024	.034	.02[illegible]
2	43[illegible]	5074	534	9.5	199.79	.039	.019	.02[illegible]
3	52[illegible]	7964	765	10.4	151.00	.019	.029	.01[illegible]
4	32230	9058	906	10.0	177.44	.020	.033	.01[illegible]
5	38762	7704	824	9.3	194.64	.025	.028	.01[illegible]
6	53883 (2)	8563	782	11.0	141.76	.017	.021	.021
7	33059	7763	587.2	13.2	125.41	.016	.022	.024
8	33830	8[illegible]	734	11.2	144.25	.018	.015	.02[illegible]
9	47943	12043	941	14.3	153.10	.013	.019	.01[illegible]
10	61325 (1)	5[illegible]	627	8.4	342.09	.065	.025	.03[illegible]
11	29601	6716	582	11.5	130.74	.019	.026	.02[illegible]
12	60569 (3)	3824	495	7.7	112.05	.029	.(1)	.03[illegible]
13	55963	7229	1044	6.9	177.87	.025	.035	.026
14	49422	1215	180	10.3	28.23	.023	.033	.05[illegible]

(1) Transferred from Georgia to North Carolina August 16, 1940

(2) Speedometer broke for distance of 65 miles

(3) Transferred from West Virginia to North Carolina on April 4, 1940

STATEMENT OF TRUCKS IN USE IN TENNESSEE 1940*

Order number	Engine number	License Number	Serial number	Capacity	Kind and make	Year model	Date secured
1	24B-2230	54608	2D4-10340	2	Reo-stake	1935	11/13/40
2	K-16173564	48317	351405	½	Chev. Station	1936	11/13/40
3	K-6175122	54374	3F-BOA-8845	½	" "	1936	11/13/40
4	M-5745617	A5-858	2-FC-116598	½	"DeLux Del	1936	2/17/38
5	T-1222733(6)	A5-854	8072462	½	Dodge Pickup	1935	1/4/38
6	T-1224165	A5-851(1)	8072312	½	" "	1935(2)	1/4/38
7	T-1224490(6)	A5-855	8072294	½	" "	1935(2)	1/4/38
8	T-1224546(6)	A5-856	8072498	½	" "	1935(2)	2/24/38
9	T-1224558	A5-860	8072384	½	" "	1935	2/24/38
10	T-1224768	A5-853	8072426	½	" "	1935	2/24/38
11	T-1225435	A5-852	8072366	½	" "	1935	2/24/38
12	T-1225805	A5-859	8072377	½	" "	1935	1/6/38
13	T-1226168	A5-861(4)	8072432	½	" "	1935	2/24/38
14	T-3685041(6)	56-633	90D06-5591	1½	Chevrolet Stake	1933	7/31/37
15	T-3697763(5)	31-193	90D06-5663	1½	" "	1933	6/17/36
16	T-3719338	A5-857	6193	1½	" "	1933	7/13/36

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* Note: On December 31, 1940 there were 15 trucks on hand

(1) Had former license No. 62-011
(2) Year of model erroneously given as 1933 in 1939 Report
(3) Former License No. 31759
(4) Former License No. 62044
(5) Called in by and transferred to State Forester 2/15/40
(6) These trucks are worn out and a Board of Survey was requested January 14, 1941 to dispose of them.

TENNESSEE TRUCKS
(continued)

Order number	Speedometer Reading	Mileage in 1940	Number gallons gasoline used	Mileage per gallon	Total cost for calendar year	Cost per mile 1940	1939	1938
1	28,011	485	68	7.1	$ 8.77	0.018	(not received till November 1940)	
2	29,108	2,199	155.3	14.1	39.26	0.018	"	"
3	25,736	1,612	110.0	14.5	23.60	0.015	"	"
4	57,352	4,987	301.0	16.6	110.88	0.022	.017	.028
5	50,830	2,744	382.	7.2	122.14	0.044	.035	.023
6	36,346	6,306	5[illegible].	11.5	143.83	0.028	.018	.021
7	51,368	11,595	957.6	12.1	375.89	0.032	.019	.027
8	40,914	7,386	771.5	9.6	205.70	0.028	.033	.025
9	64,010	9,328	647.0	14.4	240.34	0.026	.02	.026
10	35,096	5,699	433.0	10.1	102.08	0.018	.022	.02
11	39,163	5,301	308.0	9.3	110.17	0.020	.025	.021
12	45,044	6,449	461.0	14.0	126.61	0.019	.023	.023
13	42,497	9,860	742.2	13.3	171.85	0.017	.022	.027
14	59,160	5,125	557.	9.2	101.42	0.020	.027	.048
15	63,057	286	19.8	13.3	6.86	0.024	.04	.053
16	57,227	3,745	399.	9.6	92.95	0.025	.078	.08

Statement of Trucks and Autos in Use in Virginia
1940

Order No.	Engine Number	License Number	Serial number	Capacity	Make and kind	Year model	Date secured
1	K-3716853	A5-660	27137	1/2 ton	Chev. Pick-up	1933	5/24/37
2	K-3772435	A5-662	28559	1/2 ton	" " "	"	5/24/37
3	K-3848060(1)	A5-663(2)	36652	1/2 ton	" " "	"	5/24/37
4	K-5741849	A11-382(7)	14FB111783	" "	" " "	1936	12/10/35
5	M-5745638	A5-658	2FC-116592	" "	" Deluxe	1936	2/17/38
6	T-1222400	A5-661	8072492	" "	Dodge Pick-up	1935	2/21/38
7	T-1224472	A3-040	8072429	" "	" "	1935	12/27/37
8	T-1224610	A5-659	8072320	" "	" "	1935	2/21/38
9	T-1234697	A3-041	8072424	" "	" "	1935	2/21/38
10	T-1225119	A3-042	8072404	" "	" "	1935	1/5/38
11	T-1226187(3)	A11-354(4)	8072295	" "	" "	1935	2/21/38
12	T-1226496	A5-654	8072389	" "	" "	1935	1/5/38
13	T-3719268 (8)	A5-657	6730	1 1/2 "	Chev. Stake	1933	5/15/36
14	T-3733902(5)	A5-656(8)	6515	1 1/2 "	" "	1933	7/2/36
15	T-3738260(6)	A6-888	6707	1 1/2 "	" "	1933	5/15/36
16	6595278	A6-534	P6EB40673	4-door	Pontiac Sedan	1939	6/28/39

Note: On December 31, 1940 there were 14 trucks and one passenger car on hand.

(1) This truck was transferred from West Virginia to Virginia 2/1/40.
(2) Former tag Number was 53,122
(3) This truck formerly had engine No. T-1226499 which became unserviceable. Present Engine T-1226187 was transferred from old truck which was demolished and parts used.
(4) Former tag number was A-3030.
(5) Through error this engine number was listed as K3733902 in 1939 report.
(6) This truck was transferred from Maryland to Virginia 9/4/40 and according to Mr. Luce was not used thereafter.
Note. The Chevrolet sedan A-1954 Engine No. 59034-1-9 which Mr. Luce was using in Virginia was transferred December 3, 1940 to Mr. Yost in Maryland. (See Maryland for report on this auto).
(7) Former tag number was A5-655.
(8) This truck has been dismantled and board of survey has been approved.

VIRGINIA TRUCK REPORT (continued)

1940

Order number	Speed-ometer reading 12/31/40	Mileage in 1940	No. Gal. gasoline used in calendar year	Mileage per gallon	Total cost for calendar year	Cost per mile		
						1940	1939	1938
1	75315	8457	653	12.9	$202.97	$.024	$.024	$.023
2	47043	5567	518	10.8	127.99	.023	.038	.019
3	62429	9102	656	13.9	101.87	.011	.038	.023
4	57405	6493	632.5	10.2	244.74	.038	.021	.019
5	60318	9910	702	14.1	200.83	.02	.16	.014
6	31068	7895	586	13.5	131.01	.017	.022	.015
7	53728	11838	889	13.0	285.06	.024	.016	.016
8	57096	8340	610	13.7	194.06	.023	.015	.015
9	51768	12313	958	12.9	229.49	.019	.017	.023
10	57289	8512	1008	8.4	248.20	.029	.027	.019
11	69538	6776	614	11.0	170.60	.025	.025	.023
12	46548	11659	854.5	13.6	238.95	.020	.019	.019
13	57614	5944	718.	8.3	162.98	.027	.035	.040
14	47170	9355	1003	9.3	371.56	.040	.109	.076
15	57495	5444	588	9.2	102.87	.019	.0268	.047
16	25736	15314	982.5	15.5	309.10	.0202	.037	-

STATEMENT OF TRUCKS IN USE IN WEST VIRGINIA

1940

Order number	Engine number	License number	Serial number	Capacity in tons	Make and kind	Year of model	Date secured
1	M-57-28144	31,990	2FC-116302	½	Chevrolet Deluxe	1936	2/17/38
2	M-5745710	A11345 (1)	2FC-116663	½	" "	"	"
3	M-5745721	31970	2FC-116661	½	" "	"	"
4	M-5752877	31951	2FC-116793	½	" "	"	"
5	T-1224492	42898	8072365	½	Dodge Pickup	1935	1/10/38
6	T-1224622	43107(3)	8072501	½	" "	"	2/24/38
7	T-1225423	A11343(4)	8072248	½	" "	"	1/5/38
8	T-1225465	42894	8072379	½	" "	"	1/10/38
9	T-12-25885	A11344(5)	8072448	½	" "	"	"
10	T-1226758	A11346(2)	8072406	½	" "	"	1/5/38
11	T-3855385	43109	6710	1 ½	Chev. stakebody	1933	5/15/36

Note: On December 31, 1940 there were 11 trucks on hand

(1) Formerly had license No. 31,950
(2) Listed last year as having license No. 42,899
(3) " " " " " " No. 62,042
(4) " " " " " " 42,831
(5) " " " " " " 43,108
(6) " " " " " " 62,010

WEST VIRGINIA TRUCK REPORT
(continued)

Order number	Speedometer reading 12/31/40	Mileage in 1940	Number gallons gasoline used	Number miles per gallon gasoline	Total cost for 1940	Cost per mile 1940	1939	1938
1	58,157	8,318	501.	16.6	$124.68	.015	.016	$0.013
2	51,222	8,138	707.	11.5	118.41	.0147	.025	.014
3	46,675	11,550	556.	20.7	178.79	.0155	.018	.031
4	52,160	11,462	882.3	13.0	237.18	.0207	.021	.015
5	25,634 (1)	3,325	342.	9.7	75.00	.0225	.024	.032
6	35,994	5,942	681.5	8.7	279.31	.047	.041	.023
7	48,999	9,086	775.0	11.8	110.17	.012	.027 (2)	.163
8	35,599	5,498	470.	11.7	80.24	.0146	.024	.021
9	32,588	4,482	591.	7.6	144.04	.032	.046	.030
10	40,214	7,368	559.	13.2	98.47	.013	.029	.031
11	42,100	5,828	731	7.97	306.97	.052	.017	.034

(1) Out of order 12/31/40

(2) This high cost explained by fact truck incurred a repair bill though it was driven only 143 miles in 1938

TABULAR LIST OF TRUCKS AND AUTOS IN THE SOUTHERN APPALACHIAN STATES

As Of February 1, 1941

(Arranged according to license number)

License number	Engine number	Make	Year model	Tonnage	State	Speedometer reading end of calendar year 1940
A1-951	M-5752877	Chev. Deluxe	1936	½	W. Va.	52,160
31-970	M-5745721	Chev. Deluxe	1936	½	W. Va.	46,675
31-990	M-5728144	Chev. Deluxe	1936	½	W. Va.	58,157
42-894	T-1225465	Dodge Pickup	1935	½	W. Va.	35,999
42-898	T-1224492	Dodge Pickup	1935	½	W. Va.	25,634
43-107	T-1224622	Dodge Pickup	1935	½	W. Va.	35,994
43-109	T-3855385	Chev. Stake	1933	1-½	W. Va.	42,100
44-419	T-3737187	Chev. Stake	1933	1-½	N. C.	55,963
48-317	K-61173664	Chev. Stake	1936	½	Tenn.	29,106
54-374	K-61"5122	Chev. Station	1936	½	Tenn.	25,736
54-608	24B-2230	Rec Stake	1935	2	Tenn.	23,011
56-633(1)	T-3685041	Chev. Stake	1933	1-½	Tenn.	59,160
63-990	T13-92275	Chev. Stake	1938	1-½	W. Va.	32,354
A1-954*	M-59034-1-9	" Sedan	1936	5 passenger	Md.	61,158
A3-040	T-1224472	Dodge Pickup	1935	½	Va.	53,728
A3-041	T-1224697	" "	1935	½	Va.	51,768
A3-042	T-1225119	" "	1935	½	Va.	57,289
A3-043	T-1225871	" "	1935	½	Ga.	50,096
A3-996	T-3734138	Chev. Stake	1933	1-½ (sold 2/7/41)	N. C.	49,422

Note: This table represents a total of 79 trucks and 2 passenger cars

* Passenger cars

(1) These Tennessee trucks are worn out and a Board of Survey was requested January 14, 1941 to dispose of them.

License number	Engine number	Make	Year Model	Tonnage	State	Speedometer reading end of calendar year 1940
A4-324	PT81-21922	Plymouth Pu	1939	½	Tenn.	6,694
A4-325	PT81-22116	" "	1939	½	Tenn.	3,972
A4-346	PT81-22350	" "	1939	½	N. C.	6,633
A4-383	PT81-22597	" "	1939	½	Ga.	8,368
A4-395	PT81-22382	" "	1939	½	W. Va.	7,554
A4-509	T74-6773	Dodge Stake	1939	1-½	Va.	20,063
A4-510	T74-6770	" "	1939	1-½	W. Va.	27,097
A4-516	T74-6693	" "	1939	1-½	Va.	37,300
A4-517	T74-6464	" "	1939	1-½	Tenn.	33,400
A4-522	T74-5519	" "	1939	1-½	N. C.	22,743
A5-166	K-1923655	Chev Pickup	1939	½	N. C.	5,961
A5-654	T-1226406	" Stake	1935	1	Va.	46,548
A5-656	T-3733902	" "	1933	1-½	Va.	47,170
A5-657	T-3719288	" "	1933	1-½	Va.	57,614
A5-658	M-5745658	Chev. Deluxe	1936	½	Va.	60,319
A5-659	T-1224[illegible]0	Dodge Pickup	1935	½	Va.	57,096 Dismantled
A5-660	K-3716853	Chev. Pickup	1935	½	Va.	75,315
A5-661	T-12234 C	Dodge Pickup	1936	½	Va.	31,068
A5-662	K-3772455	Chev. Pickup	1938	½	Va.	47,043
A5-663	K-3848060	" "	1938	½	Va.	62,429
A5-732	PT81-22136	Plymouth PU	1938	½	Va.	7,906
A5-736	K-2498[illegible]	Chev. Pickup	1937	½	Ga.	31,189
A5-740	PT81-21907	Plymouth PU	1939	½	Va.	11,645

TABULAR LIST OF TRUCKS AND AUTOS IN THE SOUTHERN APPALACHIAN STATES (continued)

As of February 1, 1941

(Arranged according to license number)

License number	Engine number	Make	Year model	Tonnage	State	Speedometer reading end of calendar year 1940
A5-747	PT81-21907	Plymouth Pu	1939	½	W. Va.	7,522
A5-820(2)	T-1225461	Dodge Pickup	1935	½	Ga.	37,678
A5-821	K-5739097	Chev. Pickup	1936	½	Ga.	56,112
A5-824	T-1225392	Dodge Pickup	1935	½	Ga.	40,103
A5-825	T-3750443	Chev. Stake	1933	1-½	Ga.	45,000
A5-851	T-1224165	Dodge Pickup	1935	½	Tenn.	36,346
A5-852	T-1225435	" "	1935	½	Tenn.	39,168
A5-853	T-1224768	" "	1935	½	Tenn.	35,096
A5-854(1)	T-1222733	" "	1935	½	Tenn.	50,830
A5-855(1)	T-1224490	" "	1935	½	Tenn.	51,368
A5-856(1)	T-1224546	" "	1935	½	Tenn.	40,914
A5-857	T-3719338	Chev. Stake	1933	1-½	Tenn.	57,227
A5-858	H-5745617	Deluxe Del.	1936	1-½	Tenn.	57,352
A5-859	T-1225805	Dodge Pickup	1935	½	Tenn.	43,044
A5-860	T-1224558	" "	1935	½	Tenn.	63,010
A5-861	T-1226168	" "	1935	½	Tenn.	42,497
A6-534*	6595278	Pontiac Sedan	1939	4-door	Va.	25,736

*Passenger car

(1) These Tennessee trucks are worn out and a Board of Survey was requested January 14, 1941 to dispose of them.

(2) This Georgia truck actually travelled 52,850 miles but the speedometer was out of order in 1940 and registered only 37,678 at end of 1940

TABULAR LIST OF TRUCKS AND AUTOS IN THE SOUTHERN APPALACHIAN STATES (continued)

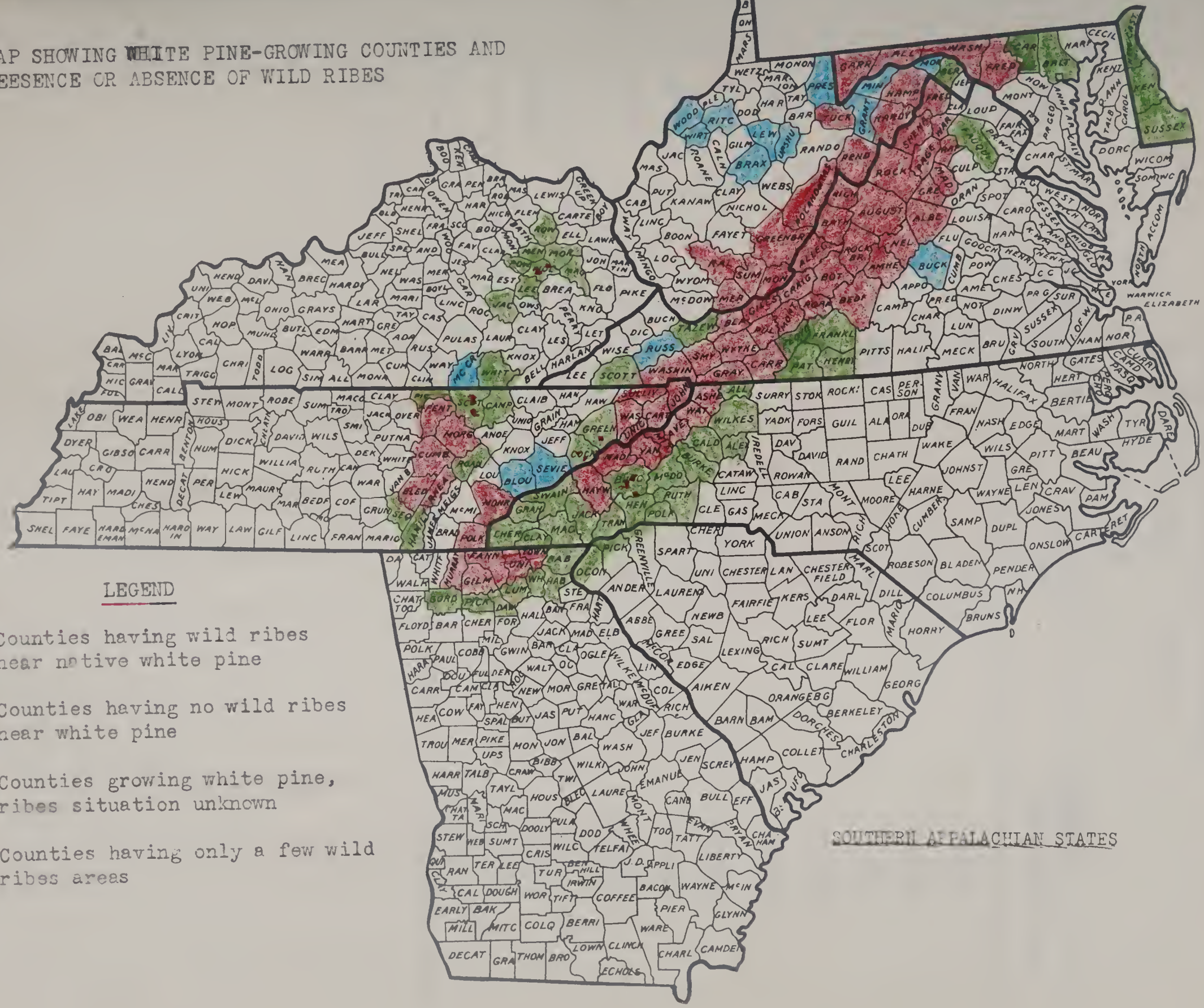
As of February 1, 1941

(Arranged according to license number)

License number	Engine number	Make	Year model	Tonnage	State	Speedometer reading end of calendar year 1940
A6-887	M-59034-1-9	Chev. Deluxe	1936	½	Md.	70,982
A6-888	T-3738260	Chev. Stake	1933	1-½	Va.	57,495
A6-889	T-1225413	Dodge Pickup	1935	½	Md.	36,027
A6-890	T-1225318	" "	1935	½	Md.	44,220
A11-343	T-1225423	Dodge Pickup	1935	½	W. Va.	48,999
A11-344	T-1225885	" "	1935	½	W. Va.	32,588
A11-345	M-5745710	Chev. Deluxe	1936	½	W. Va.	51,222
A11-346	T-1226758	Dodge Pickup	1935	½	W. Va.	40.214
A11-354	T-1226187	" "	1935	½	Va.	69,538
A11-382	K-5741849	Chev. Pickup	1936	½	Va.	57,405
A11-609	T-1225043	Dodge Pickup	1935	½	N. C.	32,230
A11-610	T-1225846	" "	1935	½	N. C.	38,762
A11-611	T-1225854	" "	1935	½	N. C.	53,883
A11-612	T-1226369	" "	1935	½	N. C.	61,325
A11-613	T-1224180	" "	1935	½	N. C.	52,271
A11-614	K-5742052	Chev. "	1933	½	N. C.	50,952
A11-615	T-1226063	Dodge Pickup	1935	½	N. C.	33,830
A11-616	T-1226243	" "	1935	½	N. C.	47,943
A11-617	T-1226504	" "	1935	½	N. C.	29,601
A11-618	T-1224144	" "	1935	½	N. C.	43,342
A11-619	T-1225986	" "	1935	½	N. C.	33,059
A11-620	T-3719311	Chev. Stake	1933	1-½	N.C.	66,569

WHITE PINES

MAP SHOWING WHITE PINE-GROWING COUNTIES AND
PEESENCE OR ABSENCE OF WILD RIBES



LEGEND

- Counties having wild ribes near native white pine
- Counties having no wild ribes near white pine
- Counties growing white pine, ribes situation unknown
- Counties having only a few wild ribes areas

N - 0.1

SUMMARY OF WHITE PINE AREAS PROTECTED FROM

BLISTER RUST INITIALLY, BY OWNERSHIP

OF LANDS, IN ACRES - GEORGIA

1933 - 1940

Year	Chattahoochee National Forest	Private and State	Total white pine acres
1933	7,422	739	8,161
1934	2,214	42,240	44,454
1935	31,494	26,205	57,699
1936	18,414	8,586	27,000
1937	50,631	14,025	64,656
1938	75,975	22,450	98,425
1939	23,480	31,323	54,803
1940	31,300	71,229	102,529
Totals	240,930	216,797	457,727

There are no national parks or nother national lands in the white pine section of Georgia.

SUMMARY OF WHITE PINE ACREAGE PROTECTED INITIALLY

1938 to 1940 Inclusive

DELAWARE

Year	Federal	State	County and Municipal	Private	Total
1938	-	-	37.0	45	82
1939	-	14.0	-	96.7	110.7
1940	0.8	-	0.8	-	1.6
Total	0.8	14.0	37.8	141.7	194.3
Figures rounded off to	1.0	14	38	141.	194.

SUMMARY OF WHITE PINE AREAS PROTECTED FROM BLISTER RUST INITIALLY
BY OWNERSHIP OF LAND, IN ACRES

KENTUCKY

Years	National Forests	Non-Federal lands	Total all lands
1934-1938	14,314	47,933	62,247
1939	164	6	170
Total	14,478	47,939(1)	62,417(2)

Note: There was no change in this data. The figures are the same as in 1939 annual report for the region.

(1) This acreage was erroneously listed as 47,669 in the Omnibus Table.

(2) In Omnibus Tables 5A in 1940, total acreage white pine worth protecting amounted to 62,147. This was a typographical error caused by transposition.

SUMMARY OF WHITE PINE AREAS PROTECTED FROM BLISTER RUST INITIALLY,
BY OWNERSHIP OF LANDS, IN ACRES 1932-1940

MARYLAND

Year	Federal Resettlement	State lands	Municipal lands	Private lands	Total Non-Federal	Total Fed. State and Municipal	Grand Total all lands Good Pine averaging 50 trees and over per acre	Scattered pine averaging less than 50 trees per acre	Total Pine
1932	-	129G	353G	56G	537G	482G	537	-	537
1933		18G	-	175G	193G	-	-	-	-
				65S	65S	18G	193	65	258
1934	180G	7,146G	-	24,003G	31149G	7326 G			
	85S	5,110S	-	15,216S	20326S	5195S	31,329	20,411	51740
1935	-	300G	-	5,765G	6065G	300G	-	-	-
	-	100S	-	4,560S	4660S	100S	6,065	4,660	10725
1936	70G	330G	-	-	330G	400G	400		
	20S	-	-	-		295	-	20	420
1937	175G	63G	500G	91G	654G	738G	829	595	1424
	15S		300S	280S	580S	315S	-	-	-
1938	-	340	24	416	780	364	403	377	780
1939	-	50G	-	11G	61G	50G	61	10	71
				10S	10S				
1940	283G	-	7	3	10G	290G	293	80	373
	80S	-	-	-	-	80S	-	-	-
Totals	908	13,586	1,184	50,650	65,420	15,678	40110	26218	66328

G = 50 trees to acre or better

S = Scattered pine

DATA ON WHITE PINE ACREAGE BY COUNTIES SHOWING NATIVE PINE AND PLANTATIONS

MARYLAND

County	Acres of white pine 50 or more stems	Acres of white pine less than 50 acres	Total white pine	Forest Plantations including column 2	White pine not worth protecting
(1)	(2)	(3)	(4)	(5)	(6)
Allegany	26,004	21,030	47,034	152	1,050
Anne Arundel	6	5	11	1	-
Baltimore	925	885	1,810	137	-
Carroll	122	167	289	-	-
Frederick	891	635	1,526	141	-
Garrett	4,791	4,287	9,078	501	2,770
Harford	25	75	100	-	-
Howard	16	-	16	16	-
Montgomery	36	-	36	33	-
Prince Georges	2	18	20	-	-
Washington	12,036	11,500	23,536	41	3,915
Totals	44,854	38,602	83,456	1,022	7,735
Recapitulation by Ownership					
Federal	774	205	979	170	70
State	9,333	5,125	14,458	334	700
Municipal	380	200	580	170	-
Private	34,367	33,072	67,439	338	6,965
GRAND TOTAL	44,854	38,602	83,456	1,022	7,735

SUMMARY OF WHITE PINE AREAS PROTECTED FROM BLISTER RUST INITIALLY BY OWNERSHIP OF LANDS IN ACRES

NORTH CAROLINA

Year	National Forests Nantahala	Pisgah	Total	National Park Great Smoky Mountains
1933-1939	23,442	23,132	46,574	11,955
1940	-	4,169	4,169	370
Total 1933-1940 Incl.	23,442	27,301	50,743	12,325

Year	Indian Reservation Qualla	Total Federal lands	Total non-Federal
1933-1939	5	58,534	599,472
1940	-	4,539	6,178
Total 1933-1940	5	63,073	605,650

SUMMARY OF WHITE PINE AREAS PROTECTED INITIALLY FROM BLISTER RUST 1918-1939
IN ACRES

SOUTH CAROLINA

Year	Nationa l Forests	State and private lands	Total all white pine
1933	425	463	888
1934	1,375	4,027	5,402
1935	-	7,562	7,562
1938	275	1,010	1,285
Totals	2,075	13,062	15,137

SUMMARY OF WHITE PINE INITIALLY PROTECTED 1933 to 1940

TENNESSEE

Year	National Forest	National Park	Total Federal	State	Private	Total non-Federal	Grand Total all lands
1933	4,107	1,825	5,932	-	-	-	5,932
1934	5,936	-	5,936	-	22,703	22,703	28,639
1935	-	-	-	-	6,157	6,157	6,157
1936	108	-	108	-	12,700	12,700	12,808
1937	25,125	-	25,125	-	18,872	18,372	43,997
1938	15,283	-	15,283	535	27,232	27,767	43,050
1939	8,440	-	8,440	-	27,195	27,195	35,635
1940	31,528	3,164	34,692	-	28,018	28,018	62,710
Total	90,527	4,989	95,516	535	142,877	143,412	238,928



Typical small sawmill cutting white pine lumber in northeastern Tennessee
Film 11 - 38 Photo by Dr. S. B. Fracker

SUMMARY OF WHITE PINE AREAS PROTECTED FROM BLISTER RUST INITIALLY BY OWNERSHIP OF LAND, IN ACRES

VIRGINIA

Year worked	National Forests	National Park	Total Federal lands	Private and State	Total white pine acreage
1929	420	-	420	-	420
1930	530	-	530	-	530
1931	500	-	500	-	500
1932	402	-	402	545	947
1933	1,619	2,742	4,361	869	5,230
1934	1,486	2,309	3,795	18,119	21,914
1935	3,169	3,475	6,644	18,124	24,738
1938	91	507	598	29,400	29,998
1937	12,836	-	12,836	56,825	69,661
1938	9,964	-	9,964	18,662	28,626
1939	2,716	154	2,870	20,553	23,423
1940	21,084	222	21,306	25,370	46,676
Totals	54,817	9,409	64,226	188,467	252,693

SUMMARY OF WHITE PINE AREAS INITIALLY PROTECTED IN WEST VIRGINIA

Year	National Forest	State	Private	Total non-Federal	Grand Total
1934	212	100	5,050	5,140	5,352
1935(1)	421	-	11,254	11,254	11,675
1936(1)	8,292	1,211	21,260	22,471	30,763
1937	16,627	2,086	45,408	47,494	64,121
1938 (1)	2,606	1,164	52,611	53,775	56,381
1939 (1)	12,624	-	27,702	27,702	40,326
1940	6,991	795	28,709	29,504	36,495
Total	47,773	5,356	191,984	197,340	245,113

(1) Dr. Ashcroft has revised the acreage figures for these years, as reported in my 1939 annual report, on page 139.

Report of

Blister Rust Control in the North Central Region, 1940

by

George M. Peterson
Senior Pathologist

and

Lilton T. Wilson
Associate Forester



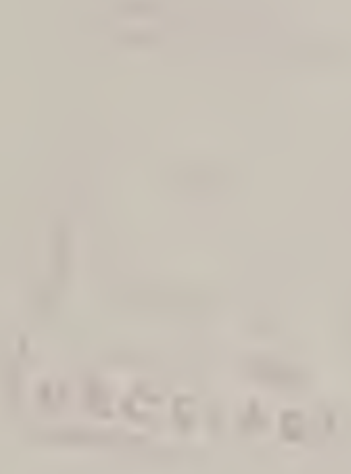


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Status of Blister Rust Control Program on December 31, 1940

North Central Region

Blister Rust Conditions

White pine blister rust infection has been found on either or both white pine and ribes throughout the important pine growing areas of the North Central Region. Although infection has been found on ribes in all states of this region, no infection on pines has been found in either Illinois or Indiana. During 1940, blister rust was found on ribes for the first time in fifty additional counties. Blister rust on white pines was found for the first time in six additional counties. Rust on ribes was found for the first time in Blackhawk County, Iowa, Jackson and Ingham Counties, Michigan, and Todd and Cleveland Counties, Minnesota. On white pine, rust was found for the first time in Alger, Jackson, Presque Isle and Cheboygan Counties, Michigan, Goodhue County, Minnesota, and Iowa County, Wisconsin.

White Pine

In the North Central Region there is a total of 3,275,182 acres of white pine, of which 1,116,103 acres are considered worth protecting according to present standards. To protect this 1,116,103 acres of white pine will require working approximately 4,441,263 acres of control area. A decrease of 140,825 acres of pine worth protecting, from last year's figure, will be noted. This decrease came about when recurvey indicated pine areas had decreased in size and value because of logging, fires, or poor plantation survival. Also, the setting of higher standards in evaluating pine stands caused a considerable reduction in pine acreage.

The present ownership of white pine is divided into the following classes:

National Forests	161,877 acres	or 14.5%
Other Public Domain	146 acres	or (trace) %
Indian Reservations	47,867 acres	or 4.3%
State and Private	906,213 acres	or 81.2%
Total	1,116,103 acres	or 100.0%

A considerable amount of white pine acreage is added each year by planting. Most of this planting is being done by public agencies. The present figures show that of the 1,116,103 acres of pine worth protecting, 952,254 acres are native and 163,849 acres are planted and planting sites.

Pre-extermination surveys have been made of the majority of pine stands throughout the region. However, additional pine stands are found each year which have to be mapped and new planting sites surveyed as the need arises. Resurvey of unworked areas is being done to properly evaluate pine stands which were surveyed five years or more ago and on which no control work has been done.

Status of Control

The status of control as of December 31, 1940 is shown as follows:

Acres white pine and W.P.P.S. under protecting- - - - -	1,116,103
Acres white pine and W.P.P.S. protected initially - -	786,127
Acres white pine and W.P.P.S. protected by rework - -	151,480
Acres white pine on maintenance - - - - - - - - - - - -	111,816

Percent pine protected initially 70.4; by rework 11.8;
on maintenance 10.0

Checking After Eradication

During 1940, 4,232.14 acres of pine and control area were examined for ribes remaining after eradication. The number of ribes and feet of live stem found per acre amounted to 3.5 and 5.4, respectively. Of the total acres worked and checked (214,495), 89.3% had less than 15 feet of live stem per acre remaining after eradication and 9.2% of the area was in the 15 to 25 foot class. Only 0.8% of the area fell in the 25 to 50 foot class, and 0.7% in the 50 foot and over class. Approximately 99% of the total area worked and checked fell within the acceptable standard of 25 or less feet of live stem per acre remaining after eradication.

Nursery Sanitation

During 1940, nursery sanitation work provided protection for 16,877,050 white pine seedlings growing in 20 nurseries. To provide this protection a total of 1,877 man-days was spent in removing 211,503 ribes from 5,876 acres of nursery area.

The ownership class, number of nurseries in each and the number of white pine seedlings grown are listed as follows:

Ownership Class	Nurseries	White Pines
U. S. Forest Service	4	4,712,000
U. S. Indian Service	1	500,000
U. S. Soil Conservation Service	3	2,326,120
State	5	7,985,930
County	1	169,000
Private	6	1,184,000
Total	20	16,877,050

Cultivated Black Current Elimination

Initial black current elimination work was carried on in Iowa, Michigan, Minnesota, Ohio and Wisconsin where 544,391 properties were inspected in 33 counties. A total of 754 locations with 4,746 bushes was found and 5,349 bushes were removed from 846 locations. The bushes removed included a number of seedlings and bushes not reported for the previous year. A total of 5,301 man-days was spent during 1940.

Recheck cultivated black current elimination work was continued in Iowa, Michigan, Minnesota, Ohio and Wisconsin. A total of 111,832 properties was inspected in 55 counties where 1,381 bushes were found on 275 locations. A total of 1,346 bushes was removed from 212 locations. Recheck elimination was performed at a cost of 2,999 man-days.

In the states of Iowa, Minnesota and Wisconsin cultivated black currant eliminations recheck revealed that 50.9% of the total bushes found during rechecks were missed originally; 7.1% were seedlings; 31.9% sprouts; and 10.1% planted since original survey. The recheck figures indicate that 97% of the locations and 93% of the bushes were found on the original survey.

Since the inception of this program, a total of 279,765 cultivated black currants has been removed from 35,695 properties. The initial cultivated black currant elimination program has practically been completed in Michigan, Minnesota, Ohio and Wisconsin.

Recommendations for Future Work

It is recommended that:

(1) Pre-eradication surveys be continued toward completing the inventory of all unsurveyed native white pine stands, and surveys be made of planted pine and planting sites as the need arises.

(2) Pine areas which have not had control work done, and on which a pre-eradication survey was made five or more years ago, be resurveyed.

(3) Local control, both initial and rework, be continued in order to place all valuable white pine stands on maintenance as rapidly as possible.

(4) Nursery sanitation work be continued to insure white pine planting stock free from blister rust.

(5) Cultivated black currant eradication work be continued to eliminate this dangerous plant from the white pine growing areas of the region.

(6) A post-check be made of all areas given initial working four or more years ago to determine for each area whether rework is needed or the area placed on maintenance.

(7) Informational activities be continued and expanded to bring to a larger number of people the importance of protecting such a valuable natural resource as white pine.

Status of Blister Rust Control Program on December 31, 1940

Illinois

Blister Rust Conditions

During 1940, no new centers of blister rust infection were located. Approximately 25,000 white pine were examined at 36 locations and found free of rust. Twenty-five Ribes sibirum bushes in two locations, previously known to be infected, were examined and found heavily infected. Rust on ribes has been reported from 10 northern counties. To date, no infected white pines have been seen in Illinois.

White Pine

The acreage of white pine in Illinois worth protecting is now 3,289. Additional white pine is added each year by planting, mostly by public agencies such as the Soil Conservation Service and State and County governments.

The ownership of the pine is listed as follows:

State - - - - - - - - - - - -	1,099 acres or 33.4%
County - - - - - - - - - - - -	911 acres or 27.7%
Municipal - - - - - - - - - - -	648 acres or 19.7%
Private - - - - - - - - - - - -	631 acres or 19.2%
Total - - - - - - - - - - - -	3,289 acres - 100.0%

Status of Local Control

Acres W.P. and W.P.P.S. worth protecting - - - - - - - - - -	3,280
Acres W.P. and W.P.P.S. given initial working- - - - - - -	2,966
Acres W.P. and W.P.P.S. placed on maintenance- - - - - - -	541
Percent initially protected - 89.0	
Percent on maintenance - 16.4	

Nursery Sanitation

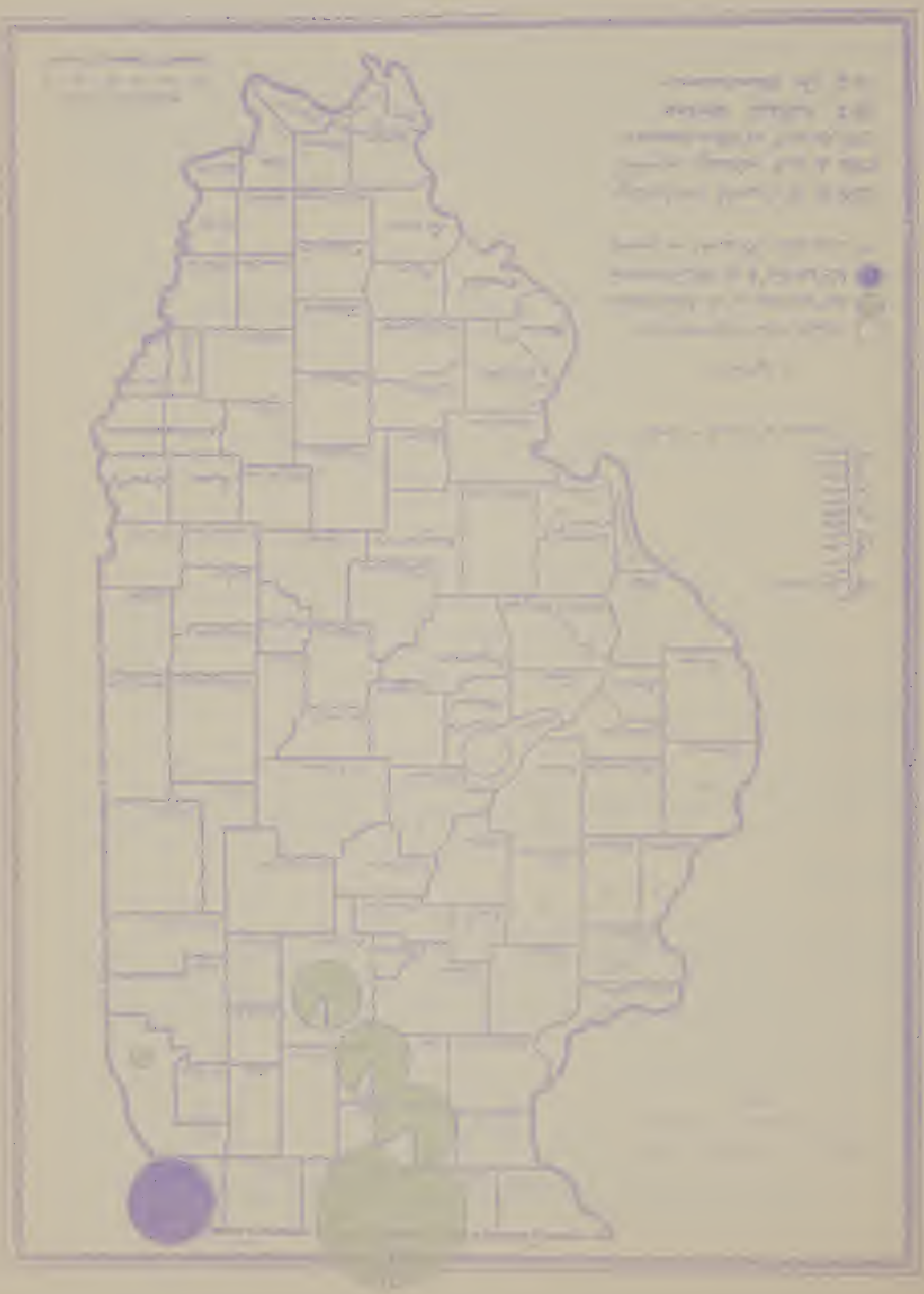
Eight nurseries are being protected in Illinois by workings every other year. These nurseries were not worked during 1940 but will be checked in 1941.

Cultivated Black Currant Elimination

No cultivated black currant elimination work was carried on as a special program. However, 26 bushes were destroyed at two locations in connection with the local control program. To date, 580 cultivated black currants have been destroyed at 62 locations.

Recommendations for Future Work

It is recommended that all assistance possible be given to cooperating agencies in protecting white pine plantations which those agencies are establishing. Assistance in selecting planting sites free from ribes, or easily made so, should be given all cooperating agencies and individuals. The development of a mobile crew trained in the methods of ribes suppression would be highly desirable. It is also recommended that informational work be expanded to reach all people in the state of Illinois who are interested in the growing of white pine for ornamental, windbreak, erosion control or lumber production.



Status of Blister Rust Control Program on December 31, 1940

Indiana

Blister Rust Conditions

During 1940 no additional pine or ribes infection was noted in Indiana. Rust on ribes has been found in four northern counties; viz., Porter, La Porte, St. Joseph and La Grange. Infected pine seedlings were discovered in 1910 in Gibson County. These imported plants were promptly destroyed and no infected pines have been found since.

White Pine

White pine is a very desirable tree for windbreak and soil erosion control. It is being extensively planted in Indiana for these purposes. There is now 1,976 acres of pine in public ownership and 4,080 acres in private ownership.

Status of Local Control

Acres of W.P. and W.P.P.S. worth protecting - - - - - - - 6,056
Acres of W.P. and W.P.P.S. given initial protection - - 5,427
Acres of W.P. and W.P.P.S. placed on maintenance- - - - 2,025
Percent given initial working - 89.6; re-eradication - 25.4;
on maintenance - 33.4.

Nursery Sanitation

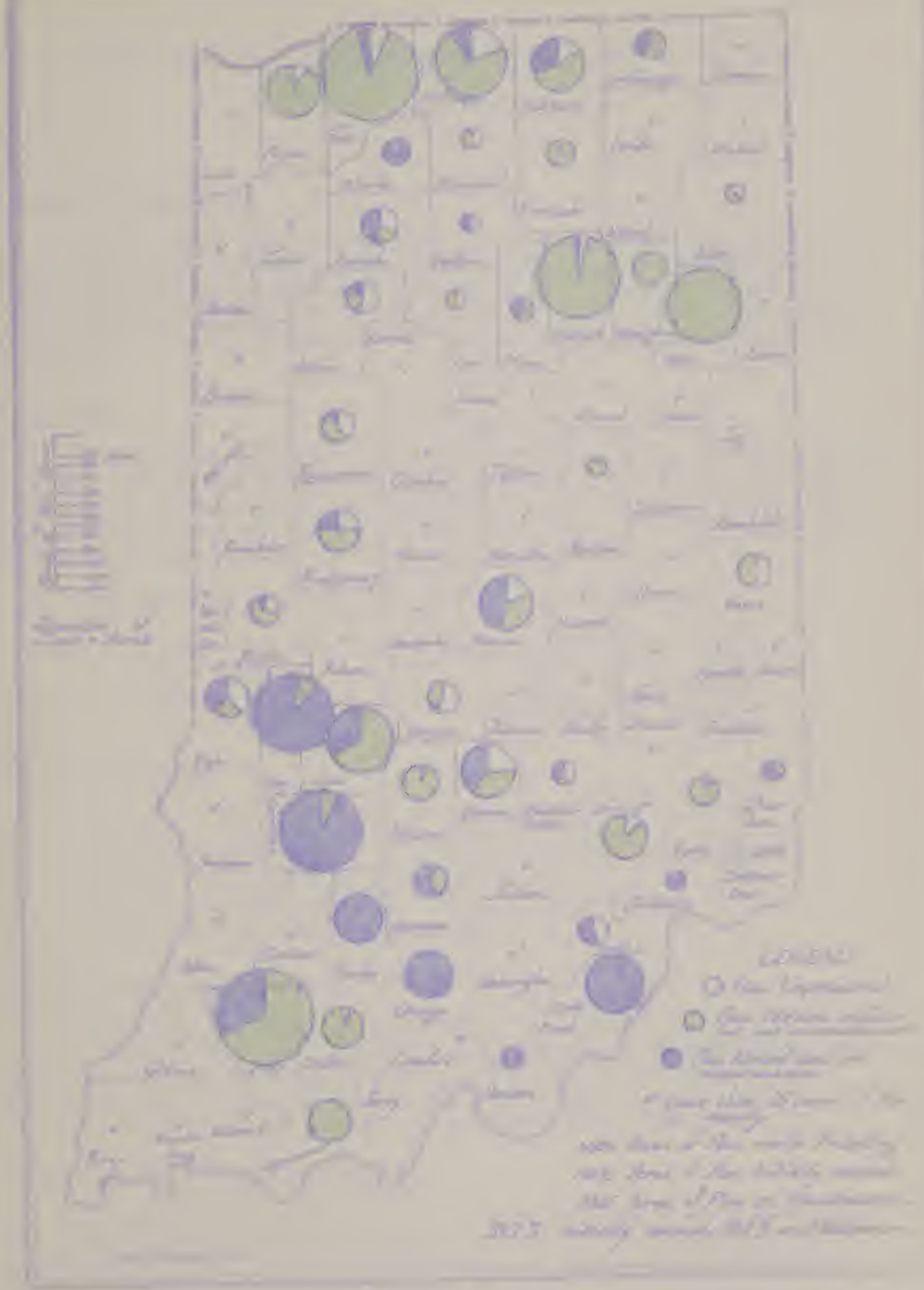
No nursery sanitation work was done during 1940. All nurseries producing white pine are practically ribes-free and will be checked in alternate years.

Cultivated Black Currant Elimination

No systematic cultivated black currant elimination program has been attempted in Indiana. The removal of these objectionable bushes is carried out only in connection with other projects such as local control or nursery sanitation.

Recommendations for Future Work

It is recommended that because of the scattered nature of pine stands and plantations in Indiana a mobile crew be organized and trained to work throughout the entire state. Assistance should be given cooperating agencies and individuals in the selection of planting sites on which a minimum of control work will be necessary. Informational activities should be continued at every opportunity.



Status of Blister Rust Control Program on December 31, 1940

Iowa

Blister Rust Conditions

During 1940, rust on ribes was found for the first time in Black Hawk County. Rust on native white pine has been found only in Dubuque County and on white pine nursery stock in Story and Lyon counties. To date, rust has been found on either or both pine and ribes in 22 counties. Infection on ribes is rather general throughout the northern and eastern counties.

White Pine

There are approximately 3,934 acres of pine in Iowa worth protecting. This pine area is broken up into approximately 9,500 areas, the majority of which are farm windbreaks and shelter belts. These areas are scattered mostly through the northeastern two-thirds of Iowa. The native white pine is found principally along the east side of the state.

The ownership of white pine is divided as follows:

Indian Service - - - - - - - - -	10 acres or	0.2%
Other Public - - - - - - - - - -	240 acres or	6.1%
Private- - - - - - - - - - - - -	3,684 acres or	93.7%
Total- - - - - - - - - - - - - -	3,934 acres -	100.0%

Status of Control

Acres W.P. and W.P.P.S. worth protecting - - - - - -	3,934
Acres W.P. and W.P.P.S. given initial working- - -	2,459
Acres W.P. and W.P.P.S. given re-eradication - - -	358
Acres W.P. and W.P.P.S. on maintenance - - - - - -	494

Percent protected initially - 66.5; by re-eradication - 9.1; on maintenance - 12.5.

Nursery Sanitation

There are four white pine growing nurseries in Iowa which require periodic sanitation work. Three of these, containing 435,000 white pines, were examined for ribes conditions and infection, but no actual ribes eradication was considered necessary. Ribes eradication will be postponed until the ribes population again becomes dangerous in number.

Cultivated Black Currant Elimination

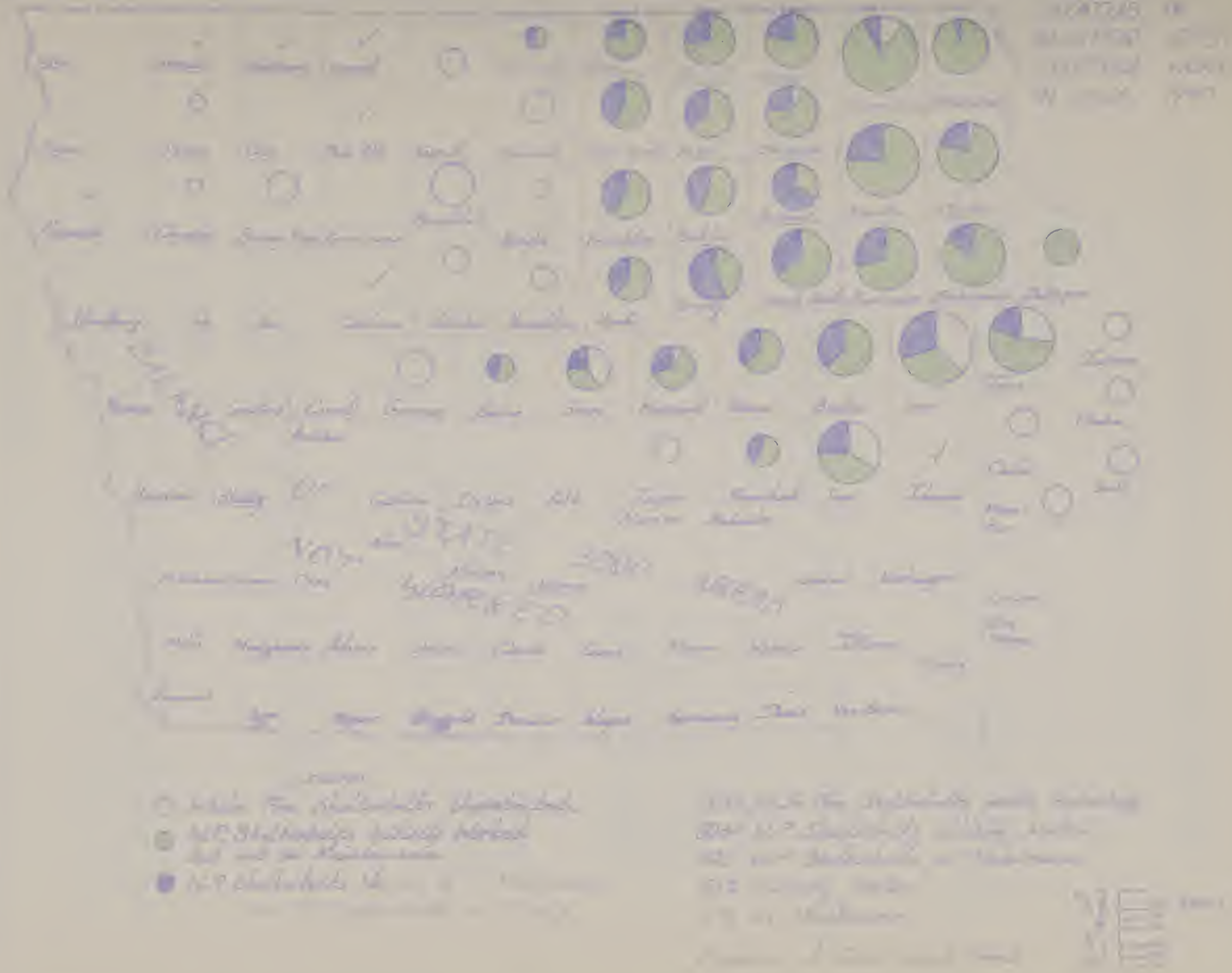
Initial black currant elimination work resulted in the examination of 7,503 properties in four counties. A total of 138 bushes was removed from 17 properties. To date 6,062 bushes have been removed from 1,341

[illegible] with initial and recheck on 40 rosettes. This work is approximately 50% complete to date.

Redneck cultivated lilac suckering elimination work was carried on in three counties where 4,654 locations were examined. A total of 51 bushes was found on 14 locations or which 30 bushes were removed from 13 locations.

Recommendations for Future Work

Continue insect control work to give initial protection to all valuable white pine stands. Re-examine areas worked five years or more ago to determine if rework is necessary or areas can be placed on maintenance. Segregate informational activities to reach as many pine owners as possible.



Status of Blister Rust Control Program on December 31, 1940

Michigan

Blister Rust Conditions

Rust on ribes was found for the first time in Deshaes and Jackson Counties and for the first time on pine in Alger, Dickson, Presque Isle and Charlevoix Counties. Rust on ribes has now been found in 80 counties and on pine in 38 counties.

White Pine

A total of 459,106 acres of white pine is now considered worth protecting. This total is composed of 376,447 acres of native pine and 82,659 acres of planted pine and plantable sites.

The present ownership of white pine is distributed as follows:

Federal	52,685 acres	or 11.5%
State	164,739 acres	or 35.9%
County and Municipal	9,659 acres	or 2.1%
Private	232,083 acres	or 50.5%
	459,106 acres	- 100.0%

Status of Local Control

Acres W.P. and W.P.P.S. worth protecting	459,106
Acres W.P. and W.P.P.S. given initial working	362,960
Acres W.P. and W.P.P.S. given re-eradication	52,113
Acres W.P. and W.P.P.S. placed on maintenance	79,947

Percent protected initially - 79.6, by re-eradication - 11.3, on maintenance - 17.4.

Nursery Sanitation

During 1940, five nurseries containing 8,135,700 white pines were sanitized by removing 28,072 ribes from 1,212 acres of control area. A total of 631 man-days was spent on this work.

Cultivated Black Currant Elimination

A total of 3,222 cultivated black currant bushes were destroyed on initial and recheck work during 1940. This program required an expenditure of 2,163 man-days of labor. To date, 140,854 cultivated black currants have been destroyed on 14,332 locations. This program is near completion in Michigan.

Recommendations for Future Work

It is recommended that:

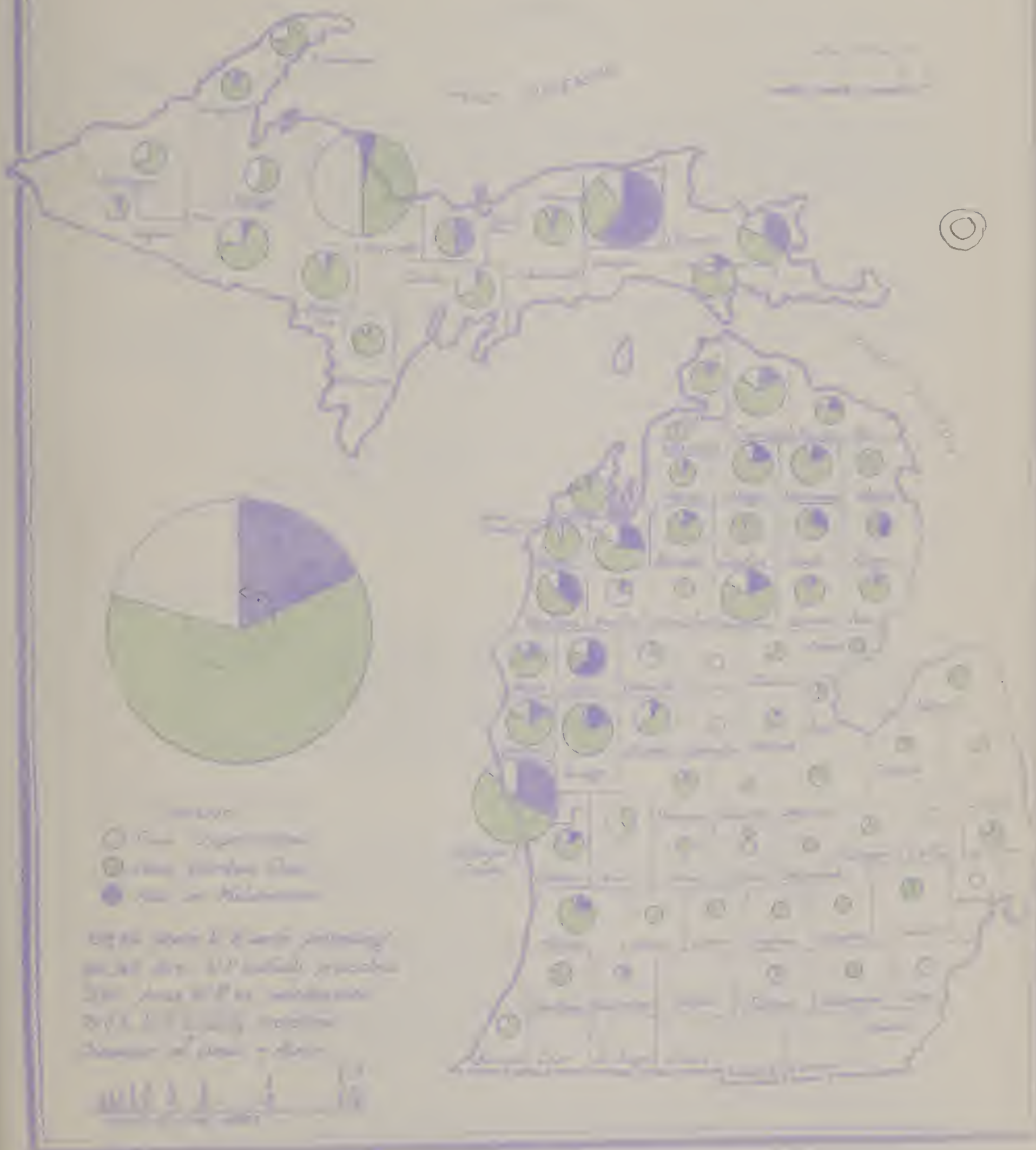
(1) Local control be pursued vigorously to bring protection to all valuable white pine stands before serious damage from blister rust can take place.

(2) Assistance be given to cooperating agencies in the selection of planting sites which are ribes-free or can be made so at a reasonable cost.

(3) Work be continued toward eliminating cultivated black currants from all pine growing areas.

(4) Nurseries be protected for the production of rust-free white pines.

(5) Informational work be continued and expanded to reach as many white pine owners as possible.



Status of Blister Rust Control Program on December 31, 1940

Minnesota

Blister Rust Conditions

During 1940, blister rust on ribes was found for the first time in Todd and Olmstead Counties and on white pine in Cloudrus County. Blister rust is now present throughout the white pine range and new infection centers are being found each year. Rust has now been found on either ribes or pine, or both, in 37 counties.

White Pine

There are 264,397 acres of white pine considered worth protecting in Minnesota. This acreage is made up of 235,960 acres of native pine and 28,437 acres of planted and approved planting sites.

The ownership of this pine is divided as follows:

U. S. Forest Service	83,[illegible]80	acres or 31.6%
U. S. Indian Service	20,023	acres or 7.6%
Other Public	73,950	acres or 27.9%
Private	86,8[illegible]6	acres or 32.9%
Total	264,397	acres or 100.0%

Status of Local Control

Acres W.P. and W.P.P.S. worth protecting	264,397
Acres W.P. and W.P.P.S. given initial working	147,935
Acres W.P. and W.P.P.S. given re-eradication	32,065
Acres W.P. and W.P.P.S. placed on maintenance	13,759

Percent given initial working - 56.0; given re-eradication - 12.1; placed on maintenance - 5.2.

Nursery Sanitation

During 1940, eight nurseries containing 6,334,350 white pines were protected by removing 147,179 ribes from 3,656 acres of control area. This program required an expenditure of 619 man-days of labor.

Cultivated Black Currant Elimination

Initial cultivated black currant elimination work was done in two counties where 4,608 inspections were made. A total of 298 bushes on 56 locations was found and destroyed. This work was accomplished by the expenditure of 334 man-days of labor.

Recheck of cultivated black currant elimination was carried out in four counties where 27,148 properties were inspected. A total of 133 bushes was destroyed on 30 locations. Recheck work cost 509 man-days. To date, 22,681 bushes have been destroyed on 3,129 locations in 38 counties.

Recommendations for Future Work

It is recommended that:

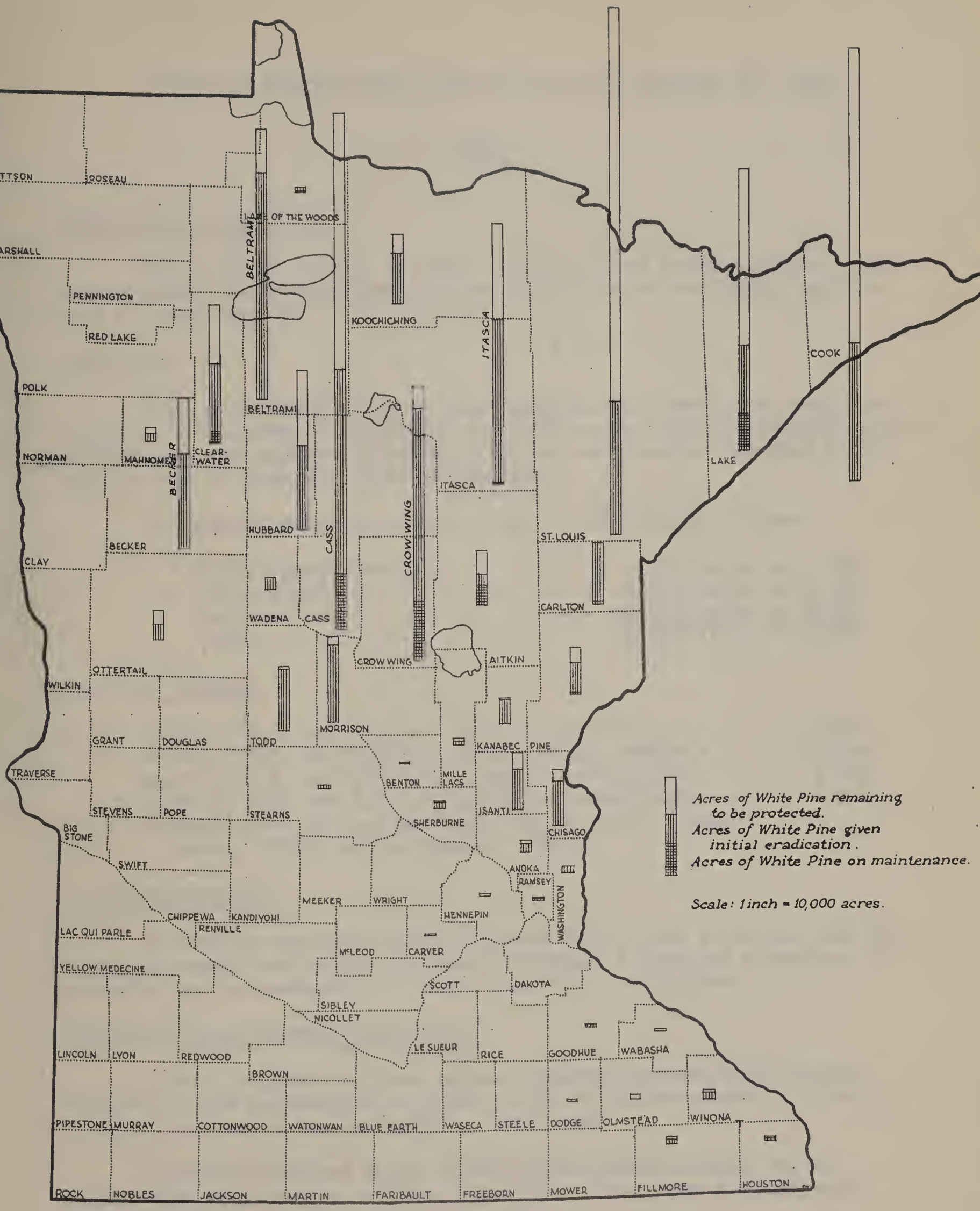
(1) Local control work be hastened especially in the northeastern portion of the state where vast acreages of pine are in need of initial protection. The establishment of work camps is necessary.

(2) Greater effort and thought be placed on the development of mobile units for use in re-eradication. Mobile camp units can be used to greater advantage in remote areas.

(3) Informational activities be continued at a high level and much thought be given to the development of new display material.

(4) Nursery sanitation be continued to insure the production of white pine planting stock free from blister rust.

(5) Efforts be continued toward eliminating the cultivated black currant from all pine producing areas.



STATUS OF BLISTER RUST CONTROL
MINNESOTA
Dec. 31, 1940



Status of Blister Rust Control Program on December 31, 1940

Ohio

Blister Rust Conditions

Blister rust on pine or ribes has been found in 39 counties. So severe damage has resulted to pine stands because of the timely application of local control.

White Pine

There are 15,358 acres of white pine in Ohio considered worth protecting. This acreage is divided into 4,520 acres native and 10,838 acres planted pine and approved planting sites. A considerable increase in the pine acreage is made each year by planting.

The present ownership of white pine is divided as follows:

U. S. Forest Service - - - - - - - -	199 acres or 1.3%
Other Public - - - - - - - - - - - -	4,893 acres or 31.9%
Private- - - - - - - - - - - - - - -	10,266 acres or 66.8%
Total- - - - - - - - - - - - - - - -	15,358 acres - 100.0%

Status of Control

Acres of W.P. and W.P.P.S. worth protecting - - - - - - -	15,358
Acres of W.P. and W.P.P.S. given initial working- - - -	11,566
Acres of W.P. and W.P.P.S. given re-eradication - - - -	3,069
Acres of W.P. and W.P.P.S. placed on maintenance- - - -	2,578

Percent given initial working - 75.3; given re-eradication - 20.0; on maintenance - 16.7.

Nursery Sanitation

No nursery sanitation work was done during 1940 since all pine producing nurseries are relatively free of ribes. A biennial inspection of nurseries may be necessary to insure ribes-free conditions.

Cultivated Black Currant Elimination

Initial cultivated black currant elimination work during 1940 resulted in the destruction of 2,404 bushes on 352 properties. A total of 2,763 man-days labor was spent on this work.

Recheck cultivated black currant elimination resulted in the destruction of 14 bushes on five properties. This work cost 829 man-days of labor.

To date, 72,726 bushes have been removed from 8,293 locations by initial and recheck work.

Recommendations for Future Work

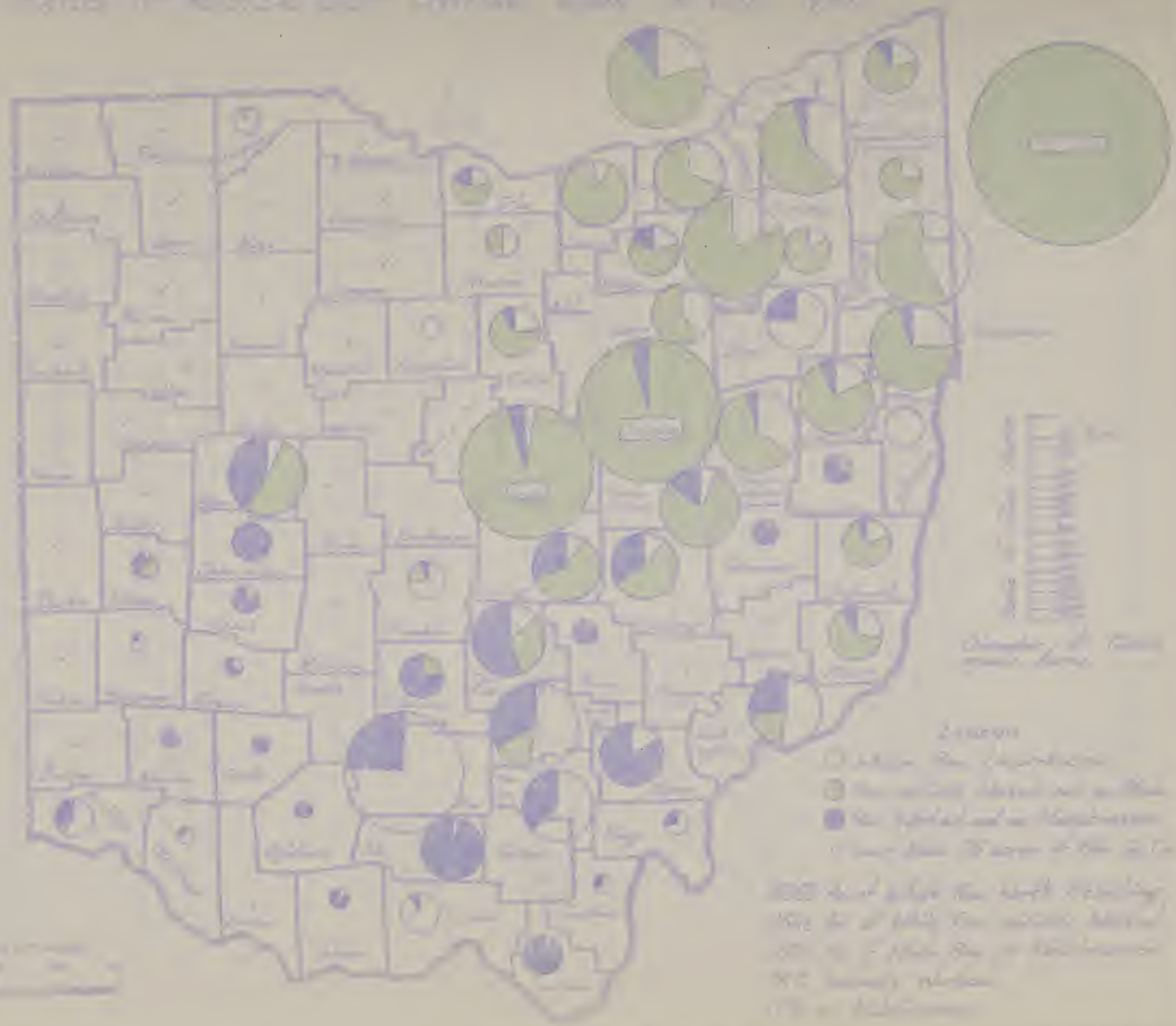
It is recommended that:

(1) Local control be continued to bring protection to all valuable pine stands before damage by blister rust becomes severe. The development of small mobile crews for pre-eradication work should be considered and studied.

(2) Aid be given to all agencies in the selection of white pine planting sites which are rust-free or can be made so at a reasonable cost.

(3) Work be continued toward the complete elimination of cultivated black currants from all pine producing areas.

(4) Informational activities be continued in order to keep all pine owners and others informed of the progress made in controlling blister rust.



Status of Blister Rust Control Program on December 31, 1940

Wisconsin

Blister Rust Conditions

During 1940, blister rust was found for the first time on white pine in Iowa County. Blister rust has now been found on ribes in all 71 counties and on pine in 51 counties. New pine infection centers are being found annually in unprotected white pine stands.

White Pine

There are 363,963 acres of white pine in Wisconsin considered worth protecting. This acreage is made up of 332,742 acres native and 31,221 acres of planted pine and approved planting sites.

The present ownership of white pine is divided as follows:

U. S. Forest Service - - - - - - -	25,465 acres or 7.0%
U. S. Indian Service - - - - - - -	27,834 acres or 7.6%
Other Public - - - - - - - - - - -	70,700 acres or 19.4%
Private- - - - - - - - - - - - - -	239,964 acres or 66.0%
Total- - - - - - - - - - - - - - -	363,963 acres - 100.0%

Status of Local Control

Acres W.P. and W.P.P.S. worth protecting - - - - - - -	363,963
Acres W.P. and W.P.P.S. given initial working- - - -	252,046
Acres W.P. and W.P.P.S. given re-eradication - - - -	42,338
Acres W.P. and W.P.P.S. placed on maintenance- - - -	12,472

Percent given initial protection - 69.0; given re-eradication - 11.0; on maintenance - 3.4.

Nursery Sanitation

Four out of nine nurseries were given sanitation workings during 1940. These nine nurseries contain about 19,804,500 young white pines. A total of 36,272 ribes was removed from 1,006 acres of control area to protect these four nurseries. This work was accomplished with an expenditure of 123 man-days of labor.

Cultivated Black Currant Elimination

During 1940 initial cultivated black currant elimination work was performed in two counties where 273 bushes were removed from 70 locations. Recheck work was done in 14 counties where 163 bushes were removed from 65 locations. A total of 1,462 man-days was spent on initial and recheck work. To date, 36,878 bushes have been destroyed on 6,540 locations.

Recommendations for Future Work

It is recommended that:

(1) Pre-eradication surveys be continued toward the completion of mapping of all remaining existing white pine stands and planting sites as the need arises.

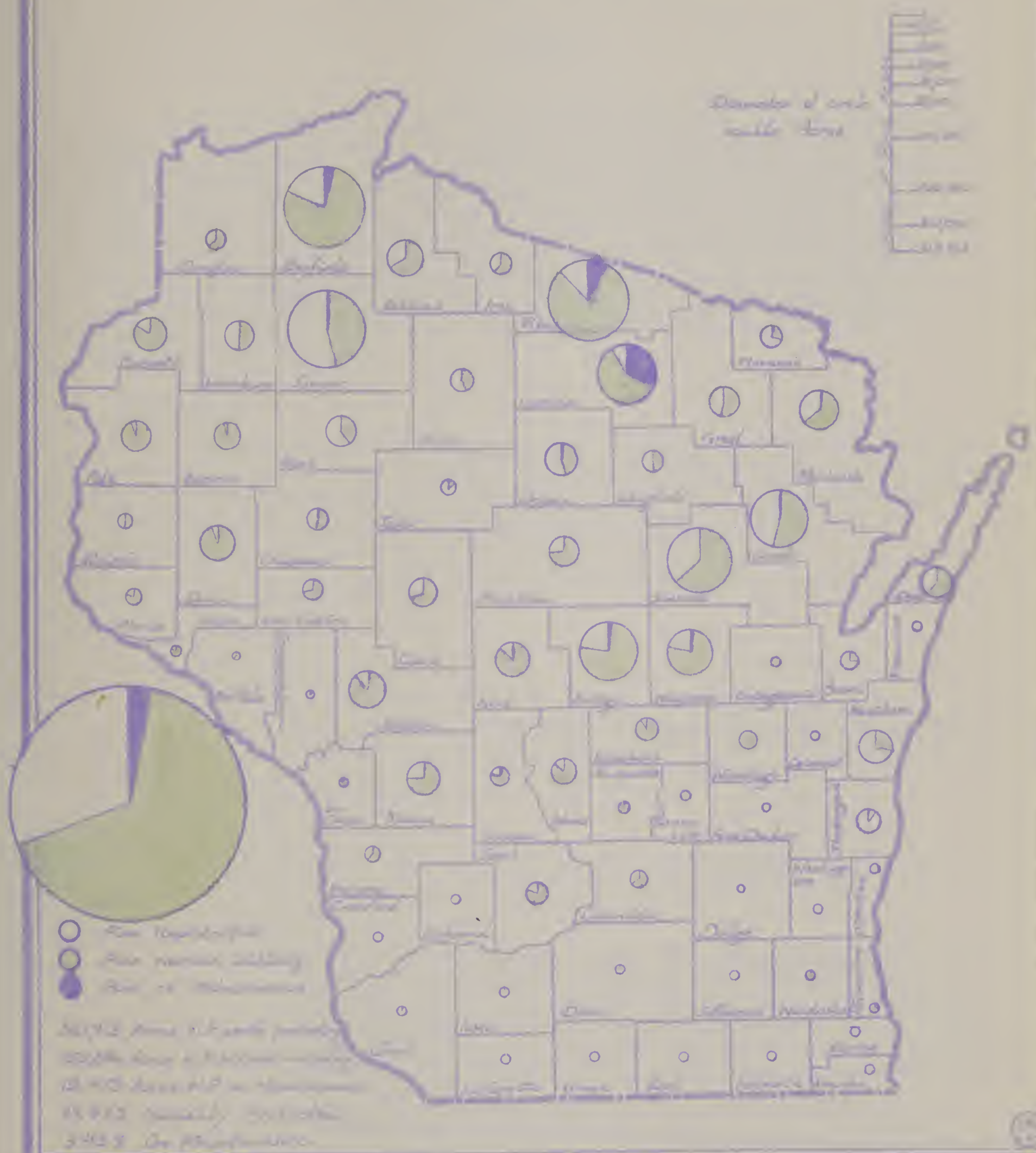
(2) Local control be continued on an even larger scale in order to give initial protection to the remaining 111,117 acres of unprotected pine. Rework should be continued on those areas where initial work was done five years or more ago.

(3) The program of eliminating cultivated black currants from white pine producing areas be continued.

(4) Nursery sanitation work be continued to insure white pine planting stock free from blister rust.

(5) Informational activities be continued to stress the importance of white pine and the necessity for control of blister rust.

STATUS OF CHURCH WORK IN WISCONSIN, 1940.



DETAILED NARRATIVE REPORT, 1940

Foreword

As a result of a Regional Conference in Milwaukee early in November 1940, the tables for state and regional reports have been revised, standardized and simplified. Certain details, such as differentiations between crew and scout work, have been eliminated. Those portions dealing with the status of control by counties, ownership classes and agencies have been consolidated and simplified. Table number designations have been made the same for all state and regional reports. Thus, Tables 1 to 12 refer to the same subjects throughout. Auxilliary tables, dealing with the subject of a table already numbered, have been given that table number with a letter of the alphabet added. Tables dealing with new subjects have been given numbers beyond 12.

Organization

With one change, the same general organization was in effect in 1940 as in 1939. Miss Edna E. Ek, Secretary in the Milwaukee office, was transferred in May, 1940 to the White Pringe Beetle office in Gulfport, Louisiana. Her position was filled by Miss Gertrude M. Rosholt, transferred from Division of Foreign Plant Quarantines at Washington, D. C.

The control organization in the North Central Region is shown in the organization chart.

Authorization for Work

As in the past several years, the work in 1940 was conducted under a Memorandum of Agreement drawn up between the responsible state agency and the Bureau of Entomology and Plant Quarantine. This and other memoranda governing blister rust control work are shown in detail in the 1936 annual report.

Cooperating Agencies

During 1940, as in 1939, control work was performed by means of contributions from four general programs and agencies listed as follows:

(1) State and Private.
(2) Regular funds, chiefly Bureau, but including a small amount of Forest Service Regular Blister Rust Control funds.
(3) Emergency Relief Administration, made up chiefly of Bureau sponsored federal agency projects, but also including state sponsored projects in Michigan, Minnesota, Ohio and Wisconsin. National Youth Administration funds were used in small amounts in Ohio and the Milwaukee office.
(4) Civilian Conservation Corps, as administered through the Forest Service, Indian Service, Park Service, Soil Conservation Service, and State.

Descriptions of the type of assistance furnished by each of these agencies are given in the 1937 Annual Report.



Spread of Rust

In general, since and including 1937, the wet seasons and periods of high humidity have favored rust development. As a consequence, intensification of the disease at known points of infection were observed and several new infection centers found during 1940.

Rust on ribes was found in 1940 for the first time in Jackson and Ingham Counties, Michigan; Todd and Olmstead Counties, Minnesota; and Winneshiek County, Iowa. On white pine it was found for the first time in 1940 in Iowa County, Wisconsin; Goodhue County, Minnesota; and Alger, Jackson, Presque Isle and Charlevoix Counties, Michigan. Six new counties in Indiana, Illinois and Ohio were added to the infected list in 1940.

The general status of infection at the end of 1940 in each of the states was as follows:

Illinois: A limited amount of scouting failed to disclose new locations of blister rust. Two locations containing 25 R. nigrum bushes were found heavily infected. These same bushes were rusted in 1939. White pines at 36 locations were examined and found free from rust. Previous to 1940, ribes bushes, particularly R. nigrum, were known to have been infected in two northern counties. No infected pines are known in the state.

Indiana: Practically no scouting was done in 1940. The known rust situation remained the same as in 1939, namely, rust had been observed on R. nigrum at three localities in three northern counties. The only pine infection ever reported was on imported white pine, later destroyed, in Elkhart County in 1910.

Iowa: Ribes infection was found for the first time in Blackhawk County. To date rust on ribes has been observed in 22 counties, and on white pine in three of them.

Michigan: Pine infection in Alger, Charlevoix, Jackson and Presque Isle, and ribes infection in Ingham and Jackson Counties was found for the first time in 1940. To date pine infection has been found in 35 counties and ribes infection in 60 counties. This leaves only Calhoun, Hillsdale and Monroe Counties in which rust on ribes or pine has not been observed. In addition to new locations reported in counties for the first time in 1940, a considerable number of newly found pine infections were reported for the first time in counties known to contain pine infections. In practically all cases these newly discovered infection centers were in unprotected stands. In general, pine infection is heaviest in Marquette and Gladstone Counties in Upper Michigan, and in the counties bordering both Lake Michigan and Lake Huron in Lower Michigan.

Minnesota: Native pine infection was found for the first time in Olmstead County. In 1918, infected planted pines were discovered in this county in a nursery. Apparently the 1913 pine infection was on stock imported from outside the state. White pines were found infected for the first time in Goodhue County. Infection on R. cynosbati and R. hirtellum was reported for the first time from Todd and Olmstead Counties. Pine

infection was observed in Todd County in 1936. To the end of 1940, rust had been reported on ribes bushes from 34 counties and on pine from 29 counties. Pine infection is particularly heavy and rapidly intensifying in northeastern Minnesota. Ribes bushes are abundant here and apparently conditions are favorable for rust development. A particularly heavy infection was found along the edge of a cliff in the Moorland Lake area, extending for nearly a mile. There were hundreds of incipient cankers of 1937 and 1938 origin, apparently caused from rust on R. cynosmarthridis growing among the rocks on the talus slope below.

Ohio: No new counties were added to the infected list in 1940. To the end of 1940, rust on ribes had been reported in 39 counties, and on pines in 10 counties. Infection was restricted to the northern portion of the state.

Wisconsin: Pine infection was found for the first time in 1940 in Iowa County. Rust on ribes has been discovered in all of the 71 counties of the state, and on pines in 51 counties. With the exception of Iron County, infested pines have now been reported from the northern three-quarters of the state.

White Pine

General

In the 1936 Annual Report a valuation of $63,000,000 was placed on the white pine growing in the North Central Region. This figure is probably now too low in view of the rising prices for lumber and wood products. However, no attempt will be made at this time to change the above figure.

The North Central Region during the past four years has been fortunate in receiving an abundance of rainfall. This, coupled with increased facilities for fire control, has greatly reduced timber losses from fire. White pine is definitely on the increase through natural regeneration and planting. The adaptability of white pine to a wide range of soil and climatic conditions make it an excellent tree for soil conservation planting. White pine fits in well with a land-use program because of its value, both aesthetic and commercial, its ability to grow on non-agricultural land, and as a source of food and shelter for wild life.

There are 3,275,102 acres of white pine in the North Central Region, of which 1,116,103 acres are considered worth protecting. This acreage of white pine considered for protection is 142,325 acres less than that reported in 1939. This reduction does not mean that there are less acres of white pine than previously reported. It does mean, however, that the standards for evaluating these stands have been raised. Also, due to heavy ribes concentrations many stands may not be protected which, in the past, were considered in the control problem. There are large areas of scattered pine which are not considered for immediate protection, but which through natural regeneration may be

worth protecting at some future time.

Table 6 shows the acreage of white pine by states. Of the 1,116,103 acres of pine worth protecting, 951,254 acres are native and 164,849 acres are planted pine.

Ownership

The ownership of white pine is constantly changing, but our most recent figures indicate the following approximate ownership classes by acreages and percentages:

U. S. Forest Service	161,877 acres	or 14.5%
U. S. Indian Service	47,667 acres	or 4.3%
Other Public	328,815 acres	or 29.5%
Private	577,544 acres	or 51.7%
Total	1,116,103 acres	or 100.0%

These figures will be noted in Table 7 in which they are listed by states and ownership classes. Over half of the white pine in this region is in private ownership.

Survey Work

Pre-eradication Survey

During 1940, pre-eradication surveys were made on 43,773 acres of white pine and planting sites. Of this total, 36,971 acres are considered worth protecting. To protect this acreage will require working a control area of approximately 176,546 acres. This work was performed by various agencies including Regular, State, State CCC, State WPA, and Bureau WPA. Since this is more or less a winter activity many of the key men, who are used as foremen on local control in the summer, are retained to perform this work during the winter months. The pre-eradication survey work in 1940 cost 1,980 man-days. This does not include any cost for the regular personnel whose time is charged to "Agent Activities". The total cost of this program amounted to $7,925.32.

During the past winter, a five-man crew was employed in stripping pine in the more inaccessible areas of Northeastern Minnesota. These men lived in a cabin, did their own cooking, and traveled out on the job on snowshoes. Most other stripping throughout the region was done by men traveling to the job by automobiles. Pre-eradication survey, as a separate activity, is nearing completion. However, there still remains a considerable acreage of white pine in the inaccessible areas of Northeastern Minnesota. Pre-eradication survey of planting sites is, of necessity, done during the summer time when ground conditions are such that ribes can be seen. This pre-eradication survey is usually done at the request of other agencies who wish to plant white pine. Pre-eradication survey figures for 1940 appear in Table 1.

Resurvey

Resurvey work was carried on in Michigan, Minnesota and Ohio, during 1940. A total of 136,545 acres of control area was examined. Resurvey has become necessary where the original survey was made five years or more previous to the time of local control. Many changes take place in a forest stand during an interval of five years. It is, therefore, considered necessary that an area, before it is worked by local control crews, be again examined to determine whether the value of the pine is still present or if any changes have taken place in the ribes population on the area. A resurvey, besides giving additional information on the ribes population, also gives a revaluation of the pine stands. A considerable number of acres have been dropped from the control problem because the resurvey indicated an over-abundance of ribes; that fire had swept through and destroyed the pine; and that logging had removed the pine value from the area. Table 1a indicates that out of a total of 42,169 acres of white pine examined 21,195 acres, or about half, are not considered worth protecting. Some of the more common reasons for discarding acreages of white pine on resurvey are:

(1) Insufficient stocking. Value of pine will not justify cost of eradication.
(2) Pine in swamps or edges with extremely heavy ribes concentrations making cost of protection prohibitive.
(3) Pine mature, without reproduction, which can be harvested before damage from blister rust becomes severe.
(4) Cutting of immature pine for pulp wood.
(5) Loss by fire or plantation failure.

Resurvey during 1940 cost $2,674.02 and used 556 man-days of labor.

Local Control, 1940

General

Local control work in the North Central Region was again carried on in cooperation with several work and land ownership agencies. The largest

work agency to cooperate in this program was the WPA in which projects were operated under the sponsorship of the U. S. Department of Agriculture, Bureau of Entomology and Plant Quarantine, U. S. Forest Service, and States. Table 2 shows the accomplishments in acreage of white pine protected initially, acres worked, ribes pulled and costs by agencies and states. A total of 45,612 acres of native and planted pine and white pine planting sites were protected by removing 13,122,196 ribes from 221,726 acres of control area. This work was accomplished by an expenditure of 47,491 eight-hour man-days of labor and supervision. Local control work during the calendar year was accomplished by an expenditure of $147,535.40. Table 2a shows a summary of re-eradication by states and agencies. In this table it will be noted that re-eradication work was done on 420 areas and resulted in giving added protection to 35,499 acres of white pine by the removal of 3,470,555 ribes from 117,783 acres of control area. Re-eradication work required an expenditure of 21,398 eight-hour man-days of labor and supervision and a total expenditure of $61,852.75. Table 2b gives a summary of initial and re-eradication work by states and agencies for the calendar year 1940. This table shows that on initial and re-eradication a total of 16,592,751 ribes were removed from 339,509 acres of control area by the expenditure of 68,889 man-days. All local control work during 1940 cost $209,388.15.

Tables 2c, 2d and 2e give a summary of all local control work performed during 1940 by states and ownership classes.

In Table 3, which is a summary of local control by agency and ownership during 1940, we find that the greatest amount of work was performed on lands of private ownership. Since most of the labor was provided by WPA under a bureau sponsored program, it was spent on lands on which no other source of labor would be available. On lands in Forest Service and Indian Service ownership, much of the work was accomplished by their own work agencies, such as their own sponsored WPA projects and CCC camps. Table 3a shows a summary of re-eradication work by agency and ownership during 1940, and Table 3b shows the combined accomplishments under both initial and re-eradication work accomplished by agency and ownership in the North Central Region.

Following is a statement of local control work accomplishments in each state and some of the problems involved which are characteristic of each:

Illinois

Local control work in Illinois during 1940 was about equally divided between initial and re-eradication. A total of 2,485 acres was initially worked and 2,427 acres were worked on re-eradication. All of the initial work in Illinois was confined to pine in private ownership. Four agencies contributed to the completion of this work. These agencies are the WPA, SCS-CCC, Private and State. Re-eradication work was performed entirely by WPA labor on lands of state, county, and municipal ownership. Much of the re-work in Illinois was necessary because of the poor quality of WPA labor available. In 1940, as well as in previous years, it was difficult to secure foremen who were reliable and could properly follow

interruptions. It is believed that most of the re-work could have been eliminated had proper supervision been available for the actual eradication work.

Initial local control work in Illinois is approximately 99% completed and 17% of the pine areas have been placed on maintenance. It is hoped that the local control work will soon be brought to a point where each year's planting can be protected the same year. This can be accomplished in Illinois if proper attention is given to the selection of white pine planting areas, and a well trained crew be made available to work during most of the summer over the entire state. Work in each county was of very short duration and since it was difficult to move a crew from one county to another it resulted in crews being poorly trained before the work was practically completed. This made it necessary to train a new crew in practically each county. If a mobile crew could be used and paid from funds which would not limit them to a definite county or area, much of this work could be accomplished in less time and in a more efficient manner.

Indiana

Local control work in Indiana was performed by bureau sponsored WPA labor, Soil Conservation Service CCC and regular bureau employees. A total of 335 acres of white pine was protected of which the majority was planted pine. Additional protection by re-eradication was given to 1,077 acres of white pine. Most of the initial eradication was performed on pine which is made up of shelter belts and windbreaks on individual farms. Re-eradication work was done on lands of public ownership, such as state parks and state forests.

Since no permanent state leader is required in Indiana, blister rust control work is done under the direction of the state leader of Ohio. A foreman was hired to supervise control work in Indiana during the summer months. Due to the press of other duties in connection with control work, it was impossible for the foreman to give daily attention to the WPA crews. As a consequence poor work was done in various places. The same thing is true in Indiana, as in Illinois, where it is impossible to keep a crew in one area long enough to build up an efficient organization. A mobile crew in this state, which could be paid from funds not limited to any particular county or area, could do more efficient work. Most of the local control work in Indiana is confined to the protection of small pine areas such as windbreaks and shelter belts. All the larger blocks of pine in this state are in a comparatively rives free condition due to more frequent workings.

Iowa

Local control work in Iowa is practically confined to protection of windbreaks and shelter belts in private ownership. Under initial eradication 181 areas were protected, containing 191 acres of native and planted white pine. The native white pine is confined more or less to the northeastern part of the state along the valleys leading out from the Mississippi River. To protect these 191 acres of pine initially

it was necessary to work 23,225 acres of control area.

Re-eradication gave additional protection to 61 acres of white pine on 89 areas. It was necessary to work 5,510 acres of control area. The figures on initial and re-eradication indicates a very high proportion of control area to the amount of pine actually protected. This is due to the nature of the pine which is made up of small blocks such as windbreaks and shelter belts around farm buildings. Much of the acreage reported worked is actually cultivated fields and it is necessary to work out only woodlots, fence rows and immediate areas surrounding the farm buildings. Local control work in Iowa cost only $0.19 and 0.05 man-day per acre worked. Most of the actual ribes eradication work in Iowa is made up of scout eradication.

Michigan

Local control work in Michigan was performed largely by the bureau sponsored WPA agency. Work was also done by the Forest Service sponsored WPA. Three divisions of the CCC participated in the control program, viz., Forest Service, State, and State Park. Under initial eradication a total of 19,508 acres of native and planted white pine and white pine planting sites was protected. This necessitated working 70,279 acres of control area. The re-eradication work gave additional protection to 14,892 acres of pine by removing the ribes from 41,300 acres of control area. In addition to the work performed by the above mentioned agencies the bureau regular employees were able to protect 1,085 acres of pine by scouting out several areas. Much of the pine being planted on national forests and lands of other ownership in Michigan are planted in the oak type where ribes are scarce. Many of these areas can be considered practically ribes-free. This is, of course, true only in the lower peninsula of Michigan. During 1940 a total of 3,798,743 ribes was removed from 111,379 acres of control area. This work required an expenditure of 20,615 man-days of labor and supervision. The majority of local control work done by the CCC was performed on lands of public ownership, whereas, the WPA confined their work mostly to privately owned lands.

Minnesota

Local control work in Minnesota was started in the southeastern part of the state on May 5. In the northeastern part it was started approximately one month later. Much of the local control work performed in Southeastern Minnesota was mop-up of areas worked during the previous late fall and winter while the ribes were in a dormant condition. This experience did not prove entirely profitable because it was found that too many ribes crowns were broken when eradication was attempted during the time the ground was partially frozen. Less ribes live stem was removed during re-eradication work, but the total number of bushes was considerably larger than the number removed during the dormant season. Much sprouting was in evidence during the summer following dormant eradication.

During 1940, a total of 8,264 acres of pine was initially protected by the removal of 4,344,286 ribes from 21,624 acres of control area.

Re-eradication gave additional protection to 4,937 acres of pine by the removal of 867,199 ribes from 14,534 acres of control area. Over half of the local control work done was accomplished with WPA labor. The CCC, under the direction of the Forest Service, Indian Service, State and Soil Conservation Service, contributed labor for local control work.

A WPA camp was again established in Cook County in Northeastern Minnesota. Due to the inaccessibility of this area it was necessary that work be carried out from camps. Transportation was provided by boats powered by outboard motors. Approximately 50 men were housed in what was called the McFarland Lake camp located on McFarland Lake. Flies are quite abundant in this section of the state, making work rather slow. The area is broken up by numerous streams, lakes and swamps between the ridges. This camp was operated in a very satisfactory manner and accomplished a great deal of local control work. The men were of the older lumberjack type who were experienced in camp life and were entirely satisfied during the entire summer. The men in the camp were all certified from the relief rolls except the cook and the camp superintendent.

The boats used during the past summer season were found to be too small to handle these large size crews. A barge was borrowed from the Minnesota State Forest Service, but this was found to be unsatisfactory because of its slow speed. With this problem still in mind, the Minnesota personnel have been building two additional large boats during the winter of 1940 and 1941. These new boats are approximately 18 feet long with a six-foot beam, and are patterned after the fishing boats used on the Great Lakes. It is believed with the addition of these new boats transportation will be speeded up considerably and a greater factor of safety will be evident.

The pine in the northeastern part of Minnesota is in great need of protection against blister rust. Infection has been found more or less widespread and many large infection areas are of recent origin. It is, therefore, highly recommended that additional camps be placed in this area to protect pine which will undoubtedly not be disturbed by any other agencies outside of rust and fire. The northeastern part of Minnesota is useful mainly for the production of timber and as a playground area. There is very little danger that the white pine will be cut before they reach maturity, as often happens in the more highly developed agricultural parts of the state.

Ohio

Local control work was performed by Bureau WPA, State WPA and Soil Conservation Service CCC Work Agencies. Most of the work in Ohio was performed on private lands. Initial local control work was done on a total of 154 areas giving protection to 1,354 acres of white pine by removing 284,554 ribes from 27,732 acres of control area. Re-eradication work gave protection to 134 acres of pine by removing 39,156 ribes from 2,145 acres of control area. A total of 2,223 man-days was spent on initial eradication and 421 man-days were spent on re-eradication. The majority of white pine protected in Ohio consisted of plantations set out by individuals and by the Soil Conservation Service on cooperating farms.

White pine is used extensively for erosion control and reforestation in Ohio.

Wisconsin

Initial eradication provided protection to 16,091 acres of white pine by removing 5,348,029 ribes from 60,720 acres of control area. Re-eradication work gave additional protection to 14,395 acres of white pine by removing 1,318,430 ribes from 45,489 acres of control area. A total of 25,885 man-days was spent on local control. The percentage of labor provided by the various agencies during local control is divided as follows:

Bureau of Entomology and Plant Quarantine-WPA	61%
State CCC	18%
U. S. Indian Service CCC	12%
U. S. Forest Service CCC	8%
State and Private Cooperators	1%
Total	100%

Local Control Accomplishments to December 31, 1940

It will be noted that the total control problem in the North Central Region comprises 1,116,103 acres of pine worth protecting having a control area of 4,441,653 acres. Of this total control problem, 786,127 acres of pine have been protected initially by working 2,892,192 acres of control area. Approximately 70% of the total white pine has received initial protection. Approximately 10% of the white pine initially protected is now considered on a maintenance basis. That is, no further work on this 10% of the area is considered necessary unless some major change in the composition of the stand occurs, such as fire, logging or wind-throw.

Chart 1 shows the status of control by states. This chart is based on Table 6. Each bar indicates the total control area within the state and is broken into three divisions showing the percentage worked initially and on maintenance, the percentage worked initially but not on maintenance, and the percentage of area remaining to be initially worked. Chart 1 indicates that Michigan, having the largest control area, also has the largest amount of this control area initially worked and on maintenance. The large percentage of control area on maintenance in Michigan is due to the relatively large areas in the lower peninsula which are ribes free.

Based on Table 6

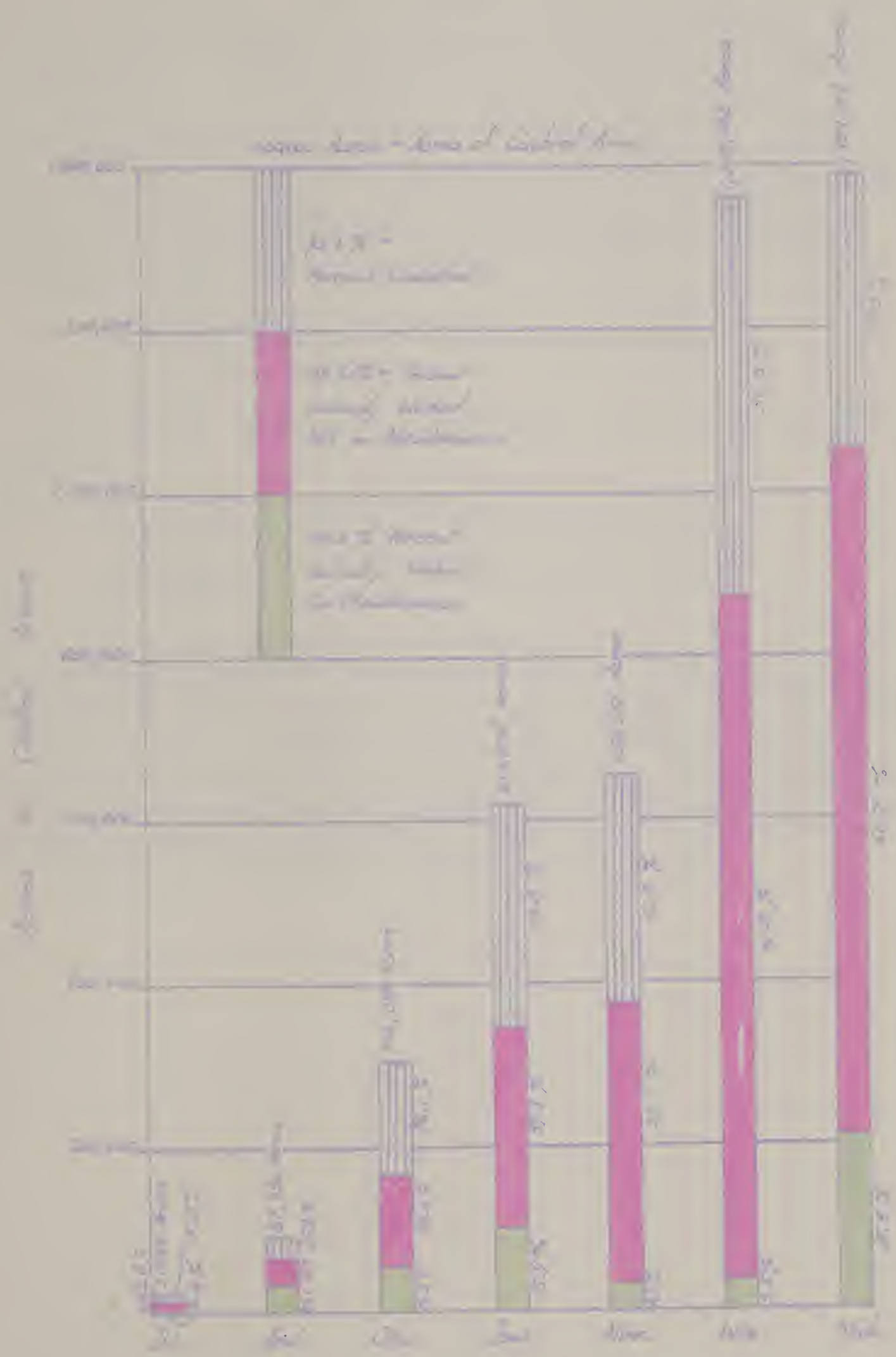


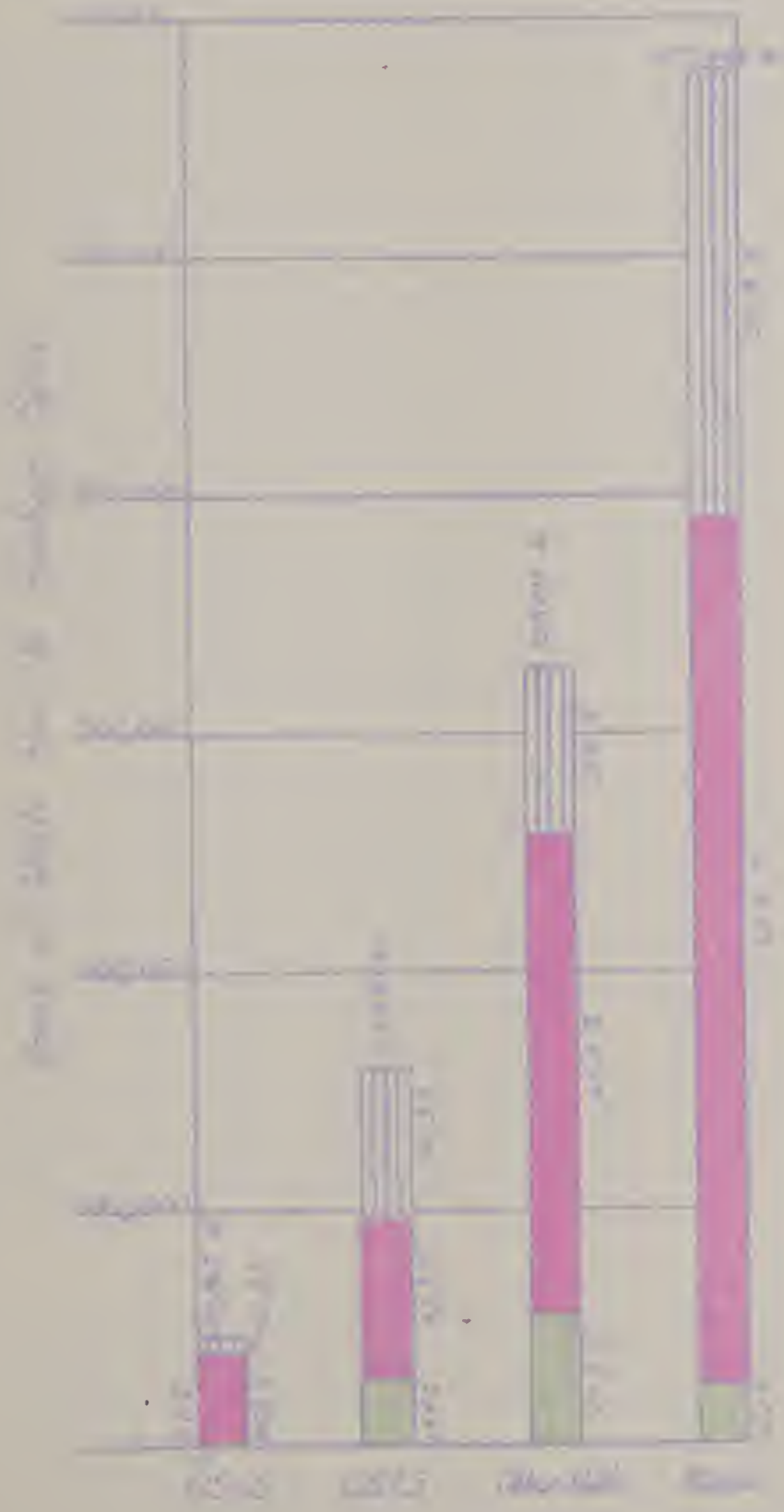
Table 7 shows the status of control by states, ownership classes and agencies in the North Central Region as of December 31, 1940. This table gives the total control problem, the acreage initially worked and acreage on maintenance. In Table 7, it will be noted that the Regular and Cooperative Agencies have protected 43,073 acres of white pine. WPA and SRA have protected 364,123 acres, BCW and CCC 360,105 acres and CWA and PWA 18,826 acres. Of this total initially protected 111,816 acres are now on maintenance. Also from Table 7 we find that the greatest amount of white pine protected is in private ownership with other public ownership second, Forest Service ownership third, and Indian Service ownership last. Chart 2 indicates that 87.2% of the white pine in Indian Service ownership has been initially protected. This ownership shows the highest percentage of white pine initially protected. The other ownership classes, in descending order, have protected their pine initially as follows:

Other Public ----------78.2%
Private ----------67.6%
U. S. Forest Service ----------59.7%

Chart 2 also shows the percentage of acreage on maintenance, as follows:

U. S. Forest Service ----------17.4%
Other Public ----------17.0%
Private ---------- 4.6%
Indian Service ---------- 2.0%

The U. S. Indian Service ownership leads all others in the amount of pine initially protected, having only 12.8% of their total control area remaining to be worked initially. The U. S. Forest Service ownership has the largest amount of unworked control area, or 40.3%. The reason for the large area yet unprotected in Forest Service ownership is due to the inaccessibility of much of the area in northern and eastern Minnesota, in which the Superior and Chippewa National Forests are located. It is hoped that by the use of camps much of this unprotected area in these two forests will be initially worked in the near future.



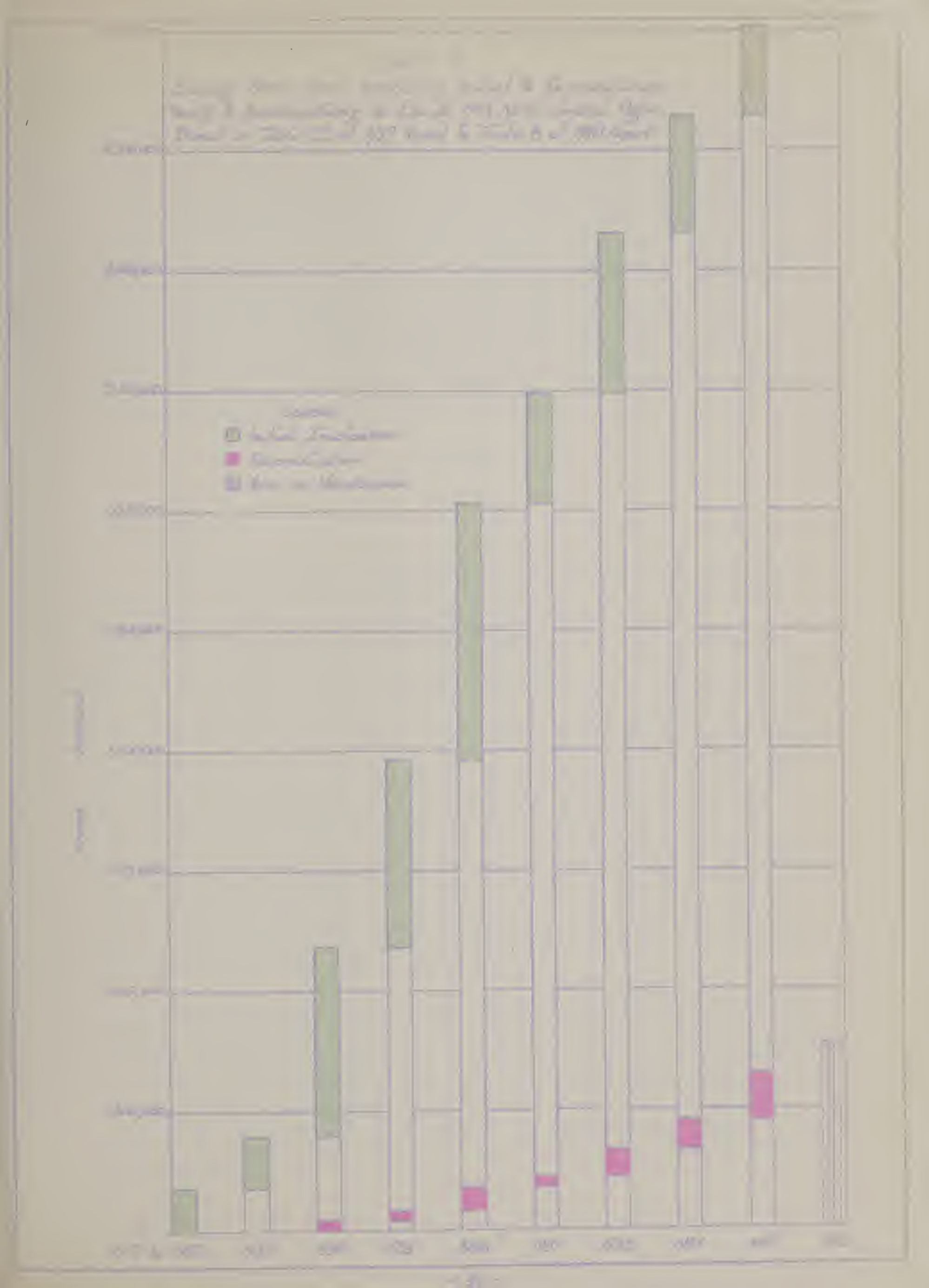


In Table 8 will be found a summary of initial local control by States, from inception to December 31, 1940. This table has grouped all of the work from inception to 1939 as one figure, and the 1940 work as a separate figure. These two figures give the total initially worked for each individual state. Table 8 differs from Tables 6 and 7 inthat the acres shown worked is a gross figure, whereas, acres worked in Tables 6 and 7 represent a net figure. It has become necessary to make a distinction between gross and net figures worked to keep a more up-to-date picture of our total control problem. In the past planting sites were often given protection before the trees were actually planted. Experience indicates that this procedure often caused unnecessary work because for some reason it was not possible to plant the areas to white pine. Since this was done we had a larger control area in figures than we actually had on the ground. It is important, however, as a matter of record, to know how much area actually had been worked and to which cost and man-day figures could be applied. Another example would be an instance where fire had destroyed the pine after initial eradicattion had taken place.

Since the acreage of pine is constantly changing it is necessary each year to determine the status of control. This change is recorded by showing net figures of pine worth protecting and average worked. Table 8 is interesting inthat it shows the average per-acre figures for man-days, cost and ribes pulled. The region total indicates that it required 0.26 man-days to work each acre at a cost of $0.78. The total ribes removed per acre is 69. The region summary shows the average for 1940 as being much better than the average for the period 1917-1939. In 1940 it cost 0.05 of a man-day less to work An acre than the average of cumulative figures for the previous years. Also, the cost per acre dropped from an average of $0.78 to $0.67, or a reduction of $0.11. The average number of ribes pulled per acre dropped from 69 to 59 in 1940. The 1940 figure also indicates that the number of ribes pulled per man-day was greater than the average of cumulative figures for previous years. The average for the years 1917 to 1939 was 260 ribes per man-day, whereas in 1940 the crews pulled 276 ribes per man-day. Since the work began, a total of 790,115 man-days have been spent in protecting 511,657 acres of pine. This has cost $2,327,046.66.

Chart 3 shows graphically the work accomplished from inception to the present time based on Table 8. During the period 1917 to 1932 the amount of work accomplished was relatively small. In 1933 the rather large emergency programs began and this is brought out by the bars shown in Chart 3. With the advent of the CCC program in 1933, the amount of initial eradication work done is slightly greater than that which was accomplished during the period 1917 to 1932. There was a considerable increase in the number of acres worked in the year 1934 over the year 1933. The program then continued fairly constant until 1937 when less than half as much initial work was done as in 1936. There was again a slight increase in 1938 over the amount done in 1937, with a gradual tapering off in both 1939 and 1940.

The amount of re-eradication accomplished since 1934 conforms rather closely with that done initially. However, in 1939 and 1940 there has been a gradual increase in the amount of re-eradication, whereas the amount of initial work done has gradually declined. Chart 3 also shows the amount of control area now on a maintenance basis. It will be noted that the acreage on maintenance is greater than the amount given re-eradication. This is due to the fact that ribes-free areas are placed on maintenance after initial eradication and these acreages are not included in re-eradication.



In Table 8a we find a summary of re-eradication work by states, from inception to December 31, 1940. A total of 389,496 acres has been worked to give additional protection to 131,480 acres of white pine. It should be brought out that the total gross acres worked may not apply strictly to the total acreage protected as given above. Part of this acreage worked is mop-up, which is done the year following initial work and which may be done only on a very small portion of an area. Mop-up is usually confined to a few acres bordering the swamp or inside of a swamp, and these acreages may not be applied to any pine acreage figures. The gross acres worked, however, do indicate the number of acres that have actually been mopped up or re-worked after the initial eradication was completed. In comparing average figures it will be noted that re-eradication required 0.24 man-day to work an acre, as compared to 0.26 on initial working. The cost per acre for re-eradication is $0.70 as compared to $0.78 for initial eradication. Only 39 ribes were removed per acre as compared to 69 on initial work.

Checking

Regular Check

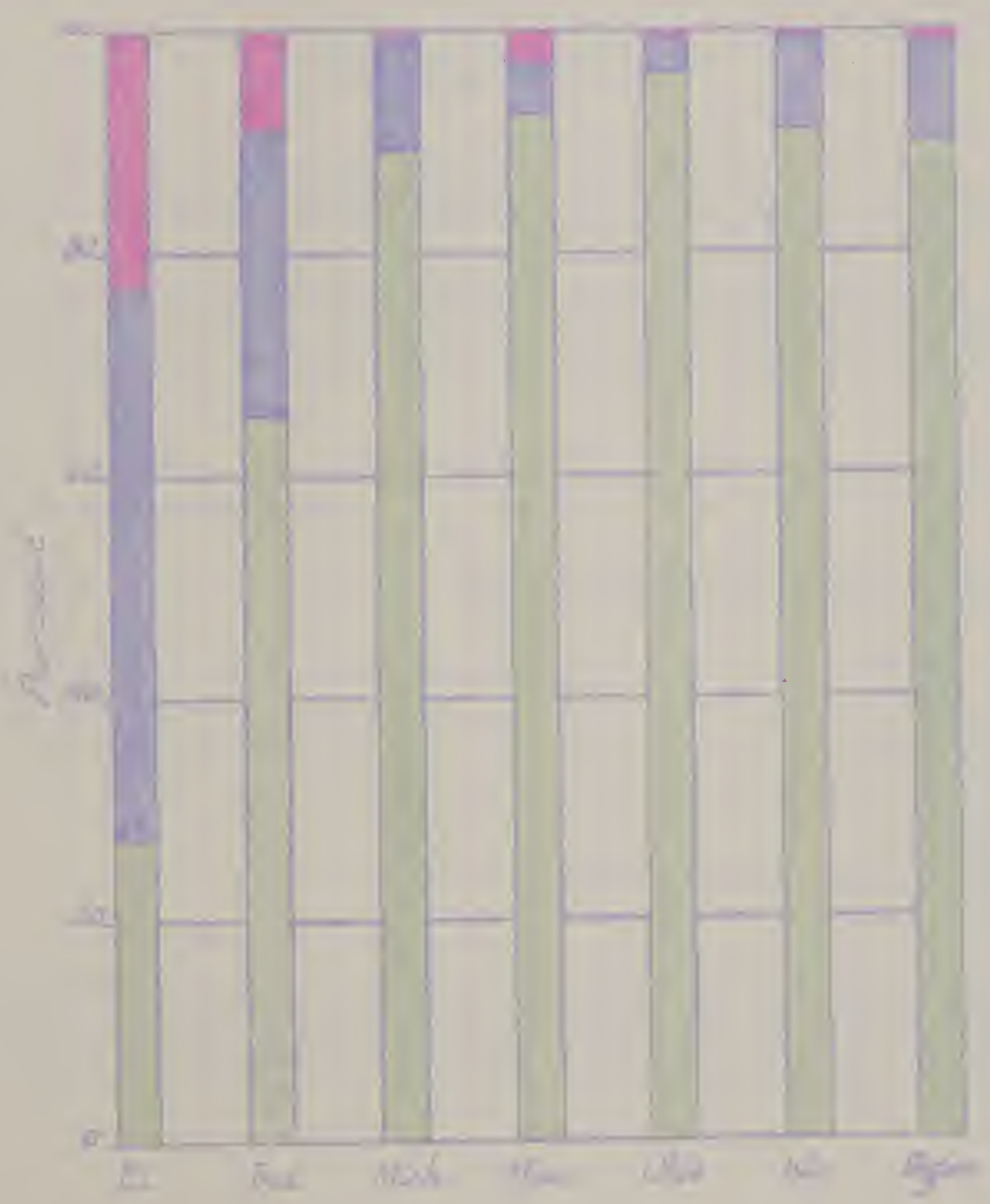
The same system of checking, viz., a 2% systematic check was again used in 1940. For a description of this method of checking refer to the 1937 Regional Annual Report. In Table 4 will be found figures showing the results of checking in each state after eradication. A systematic check was made on 339 areas comprising a total of 24,495 acres. The sampling resulted in the examination of 4,232.14 strip acres. Each strip in this type of sampling is 13.2 feet wide, requiring 30 chains of strip to equal one acre. A total of 14,723 bushes containing 22,903 P.L.S., was found on this sample. This represents an average of 3.5 bushes and 5.4 P.L.S., per acre worked. As a regional average this is far below the present standard of 25 P.L.S. per acre allowed after working. Also, in Table 4 the total area worked has been divided into P.L.S. classes remaining after eradication. The classes run from zero to 15 feet; 15.1 to 25 feet; 25.1 to 50 feet; and over 50 feet of live stem per acre. In the zero to 15 feet of live stem class 218,537 acres are found, or 89.1% of the total area worked and checked; in the 15.1 to 25 feet of live stem class are found 22,722 acres, or 9.3%; in the 25.1 to 50 foot class are found 1,489 acres, or 0.6%, and in the over 50 foot class 1,751 acres, or 0.7%. This indicates that the area which did not pass the regional standard of 25 feet of live stem or less per acre represents only 1.3% of the total area worked and checked.

It will be noted from Table 4 that Illinois and Indiana both show acreage where the feet of live stem is higher than the accepted standard. Illinois shows 28.8 P.L.S. per acre and Indiana 44.6 P.L.S. per acre after eradication. The reason for this high P.L.S. count after eradication is due to the lack of sufficient supervision in these states to make the best use of the type of labor available on this project. Areas in Illinois and Indiana that did not check out according to regional standards will be re-worked during 1941 to bring them within the required feet of live stem class.

Chart 4, based on Table 4, shows graphically the percentage of cells in each F.W.E. class after irradiation. From this graph it will readily be seen that the largest part of the average marked and checked cells within the zero to 15 level of live stem class.

Chemical Research of Mining - Some Kind of Play about Coal under Underground Water by Students, North Gaborone Higher, Based on Table 1

State	Area (sq. km)	Population (2010)	Population (2015)	Population (2020)	Population (2025)	Population (2030)
Alaska	5,100	2,200	2,400	2,600	2,800	3,000
Arizona	6,700	4,500	5,200	6,000	6,900	7,900
Arkansas	9,200	3,000	3,100	3,200	3,300	3,400
California	36,000	37,000	39,000	41,000	43,000	45,000
Colorado	7,800	5,000	5,600	6,300	7,100	8,000
Connecticut	5,500	3,500	3,600	3,700	3,800	3,900
Delaware	2,000	900	950	1,000	1,050	1,100
Florida	21,000	19,000	21,000	23,000	25,000	27,000
Georgia	15,000	10,000	10,800	11,700	12,600	13,600
Hawaii	1,000	1,400	1,450	1,500	1,550	1,600
Idaho	8,000	1,600	1,750	1,900	2,050	2,200
Illinois	14,000	12,800	12,900	13,000	13,100	13,200
Indiana	9,500	6,500	6,600	6,700	6,800	6,900
Iowa	8,000	3,100	3,150	3,200	3,250	3,300
Kansas	9,000	2,900	2,950	3,000	3,050	3,100
Kentucky	10,000	4,400	4,500	4,600	4,700	4,800
Louisiana	9,000	4,600	4,700	4,800	4,900	5,000
Maine	4,000	1,300	1,320	1,340	1,360	1,380
Maryland	4,000	5,800	6,000	6,200	6,400	6,600
Massachusetts	3,500	6,500	6,700	6,900	7,100	7,300
Michigan	15,000	9,900	9,950	10,000	10,050	10,100
Minnesota	13,000	5,300	5,500	5,700	5,900	6,100
Mississippi	8,000	2,900	2,950	3,000	3,050	3,100
Missouri	12,000	6,000	6,100	6,200	6,300	6,400
Montana	14,000	1,000	1,050	1,100	1,150	1,200
Nebraska	8,000	1,900	1,950	2,000	2,050	2,100
Nevada	11,000	2,700	3,000	3,300	3,600	3,900
New Hampshire	2,000	1,300	1,350	1,400	1,450	1,500
New Jersey	2,000	8,800	8,900	9,000	9,100	9,200
New Mexico	12,000	2,100	2,200	2,300	2,400	2,500
New York	14,000	19,400	19,500	19,600	19,700	19,800
North Carolina	14,000	9,900	10,400	10,900	11,400	11,900
North Dakota	7,000	700	720	740	760	780
Ohio	11,000	11,500	11,600	11,700	11,800	11,900
Oklahoma	10,000	3,800	3,850	3,900	3,950	4,000
Oregon	10,000	3,800	4,000	4,200	4,400	4,600
Pennsylvania	12,000	12,800	12,850	12,900	12,950	13,000
Rhode Island	1,000	1,050	1,060	1,070	1,080	1,090
South Carolina	8,000	4,600	4,800	5,000	5,200	5,400
South Dakota	8,000	800	820	840	860	880
Tennessee	11,000	6,400	6,600	6,800	7,000	7,200
Texas	27,000	25,000	27,000	29,000	31,000	33,000
Utah	8,000	2,800	3,000	3,200	3,400	3,600
Vermont	2,000	620	630	640	650	660
Virginia	10,000	8,000	8,200	8,400	8,600	8,800
Washington	12,000	6,700	7,000	7,300	7,600	7,900
West Virginia	6,000	1,850	1,820	1,790	1,760	1,730
Wisconsin	10,000	5,700	5,750	5,800	5,850	5,900
Wyoming	10,000	580	590	600	610	620



Post-Check

Table 5 gives a summary of data collected from the post-check surveys performed in 1940. Post-checking is done several years after initial eradication to determine the present status of a particular pine stand with reference to the pine values now present, and the amount of ribes present through regeneration. Post-checking provides information which aids in determining the time for re-eradication. It is sometimes possible to place an area on maintenance from information secured on the post-check survey. The method of post-checking is essentially the same as that employed for regular checking. The area sampled is usually 2% of the total control area of that particular pine stand. During 1940, 1,682 areas were given a post-check in Indiana, Michigan, Minnesota, Ohio, and Wisconsin. A total of 59,423 acres of white pine and 332,655 acres of control area was examined. Of this total 7,911 acres of pine and 24,683 acres of control area were dropped from further consideration because the pine values were no longer present. The acreage of pine discarded is 13.3% and the acreage of control area discarded, 7.4%. Of this total area examined it was also found that 9,658 acres of pines and 98,575 acres of control area could immediately be placed on maintenance, leaving 41,853 acres of pine and 209,397 acres of control area which needed additional work.

Nursery Sanitation

During 1940 a total of 20 nurseries was given sanitation working. These nurseries contained approximately 16,877,050 young white pines. In the protection of these nurseries it was necessary to remove six cultivated black currants, 14 other cultivated currants, and 211,483 wild currants and gooseberries. There were 5,676 acres of control area worked to protect 670 acres of nursery area. A total of 1,377 man-days was spent on this project.

Listed below are the number of nurseries and the number of white pines produced by ownerships:

Ownership	No. of Nurseries	No. of White Pines
U. S. Forest Service	4	4,712,000
U. S. Indian Service	1	500,000
U. S. Soil Conservation Service	3	2,326,120
State	6	7,985,930
County	1	169,000
Private	5	1,184,000
Totals	20	16,877,050

Approximately 15 other nurseries in the region are producing white pine, but because of their ribes-free condition or near-ribes-free condition it is not considered necessary that they be given a sanitation working each year. Many of the nurseries will be worked only every other year.

Cultivated Black Currant Elimination

During 1940 initial cultivated black currant elimination work was carried on in 33 counties in the States of Iowa, Michigan, Minnesota, Ohio and Wisconsin. This work resulted in the examination of 364,381 properties, on which were found 4,746 bushes on 754 locations. At the time of this work a total of 5,349 bushes was removed from 946 locations. The number of bushes destroyed was greater than the number reported found. This was due to the destruction of bushes during 1940 which were actually found and reported in 1939. A total of 5,301 man-days was spent on this work. The averages showing the number of bushes per location, number of locations per 1,000 inspections, and the number of locations found per man-day, were 6.3, 2.1, and 0.14, respectively. Initial cultivated black currant elimination work is nearing completion in most of the states.

Recheck cultivated black currant elimination was carried on in Iowa, Michigan, Minnesota, Ohio, and Wisconsin. Inspection work in 56 counties revealed a total of 1,584 bushes on 275 locations. This work also resulted in the destruction of 1,346 bushes on 212 locations. A total of 2,099 man-days was spent. The average number of bushes found per location on recheck is slightly less than that found on initial eradication, or 5.8 as compared to 6.3. The higher average number of bushes found on recheck per 1,000 inspections, 2.4 for recheck against 2.1 for initial, is due to the fact that recheck is generally confined to areas of heavy concentration.

Table 10a gives an analysis of cultivated black currant recheck work performed in the North Central Region. This analysis is made for the States of Iowa, Minnesota, and Wisconsin. In these three states a total of 22,001 bushes was found on 3,244 locations during the initial survey. During the recheck survey 257 bushes were found which were missed originally, as well as 55 seedlings, 149 sprouts, and 47 replanted since the original survey. It will also be noted that 97% of the locations and 99% of the bushes were found on the original survey.

Chart 5 shows graphically the analysis of recheck cultivated black currant elimination. Recheck in Iowa indicated that all bushes found were missed during the original survey. In Wisconsin the majority of those found were missed originally and a few planted since the original survey. An even smaller number was reproduced from sprouts. In Minnesota 55 bushes were found which were determined to be seedlings. This indicates that the regeneration of cultivated black currants from seed is a negligible factor. Regeneration from sprouts is quite common and indicates that careful work in removal of large bushes must be done.

Chart

Showing Number of Inoculations of Cultivated Stock Carried Around Each Area by Cattle during 1914 in Stock Route Control Regions

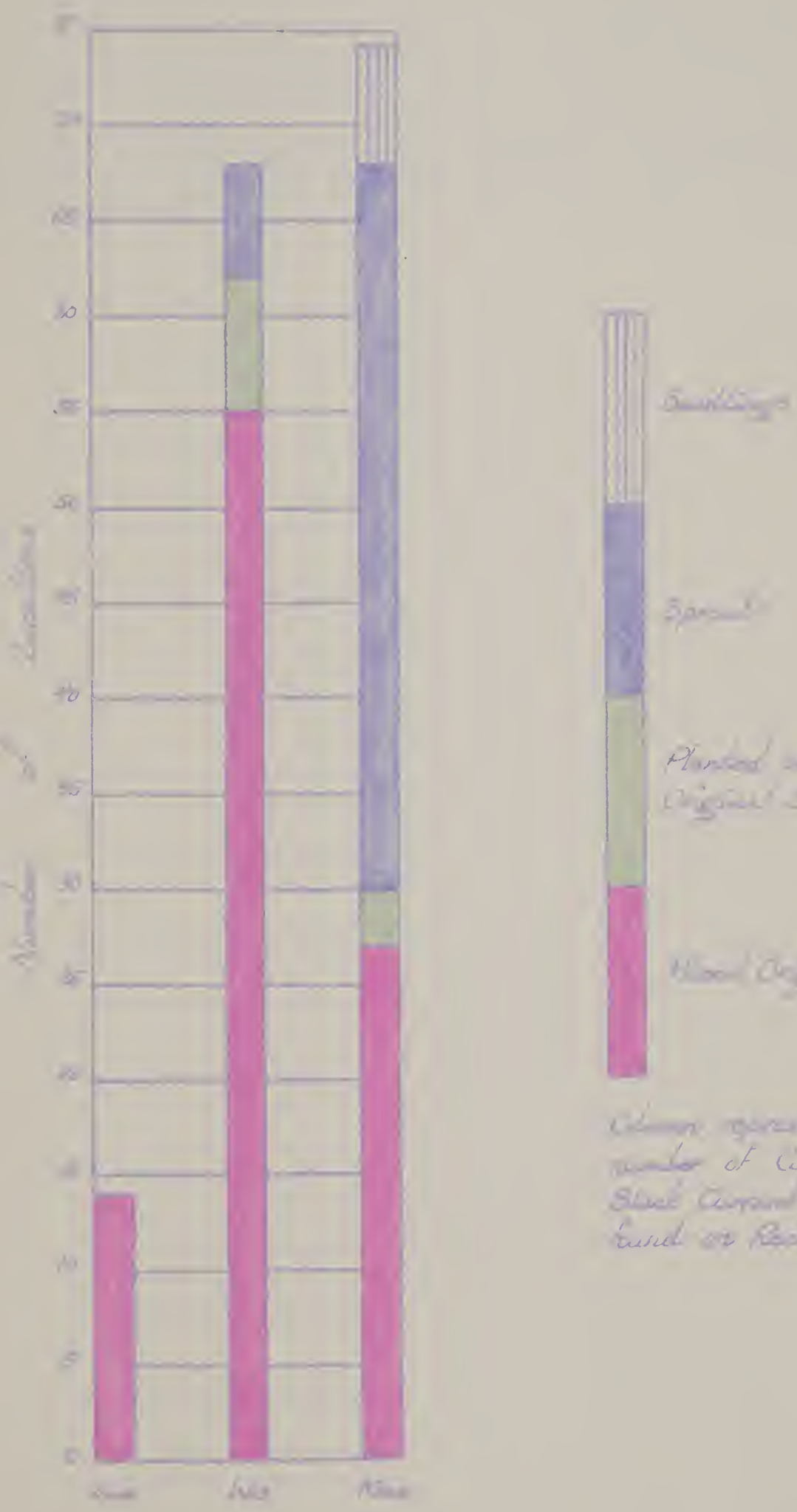
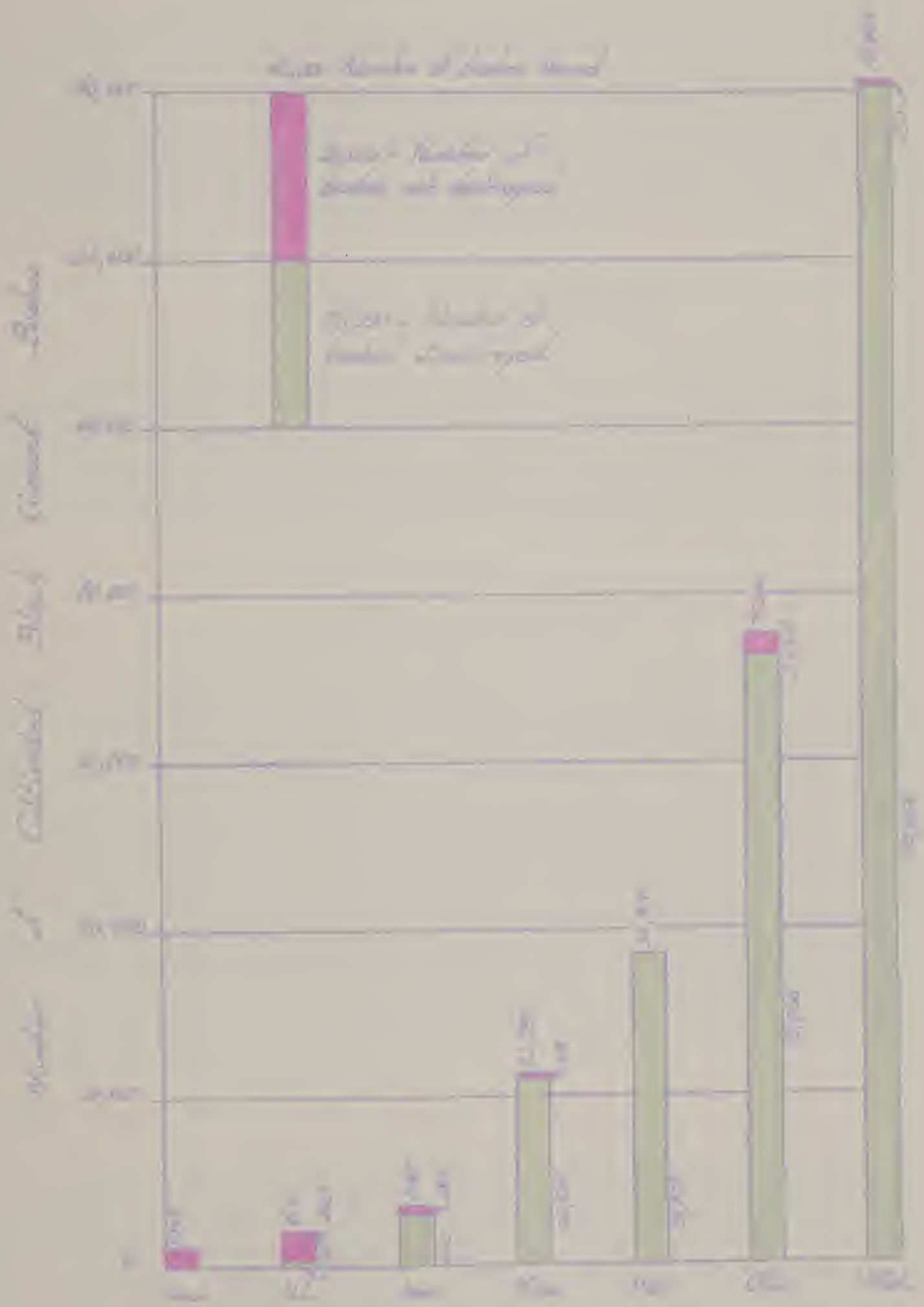


Table 11 shows the cumulative amount of cultivated black currants found and destroyed, by states, since the inception of the work to the present time. A total of 279,765 bushes was removed from 33,693 locations. In Illinois and Indiana no project is made of cultivated black currant elimination. The bushes removed in these two states are destroyed in connection with local control or nursery sanitation work. In Indiana no cultivated black currants have as yet been destroyed inasmuch as they have not interfered with the protection of pine stands. In the region as a whole 289,620 bushes have been found on 35,258 locations. Chart 6 shows graphically the number of cultivated black currant bushes found and destroyed to December 31, 1940, by states. This chart is based on Table 11.



Canker Pruning

During 1940 canker pruning as a project was carried on only in Michigan where 15,961 cankers were removed from 5,497 trees. A total of 231,700 white pines was examined. Table 13 gives a summary of the 1940 canker pruning work in Michigan and also the cumulative figures for Michigan, Minnesota, and Ohio. Canker pruning is carried on only in areas of high aesthetic value on which local control work has already been accomplished. This work was confined to roadsides, parks, cemeteries and other areas frequently seen by the public.

Control Zone Boundary Marking

A small amount of boundary marking work was done in Minnesota, where 7 areas containing 2,141 acres were marked. A total of 28 miles of boundary was marked using 41 man-days at a cost of $151.22. The average cost per mile of boundary marked was $4.69. Table 14 shows a summary of current work done in Minnesota, and a cumulative summary of work accomplished to date in Minnesota and Michigan.

Informational Activities

To carry on a successful program of blister rust control it is necessary that the program have the support of the pine owners and the public. In order to keep the public well informed of the work accomplished and the need for its continuation it is necessary that a continuous informational program be carried on in the region. Blister rust damage is now evident in many places throughout the northern portion of the pine growing areas. Accessible stands of pine that have been damaged by blister rust should be shown to pine owners and others responsible for administration of forest lands in order to demonstrate the danger involved. A successful program of informational activities has been carried on in the North Central Region for several years. It is important that we continue this work, and even increase its scope to reach more people than we have in the past. The informational work carried on by each state during 1940 is listed as follows:

Illinois

In addition to the contact made with pine and black currant owners in the course of other work, exhibits were placed at the State Fair, International Livestock Show, State Nurserymens' Convention, and the Illinois Flower Show in conjunction with the State Department of Agriculture exhibits. These exhibits consist of posters and transparency pictures of the blister rust and pine stands. Diseased specimens of pine and ribes were also exhibited. Approximately 300 copies of a news release was distributed to local newspapers in the areas in which blister rust control work was being done.

Indiana

Very little work of this nature was done in Indiana except for contacts made with pine owners and with Soil Conservation Service officials. Federal blister rust control bulletins were distributed to pine owners and others interested in control work.

Iowa

In Iowa personal contacts were made with pine and black currant owners by foremen engaged in local control and black currant elimination work. These foremen and others distributed bulletins to people interested in blister rust control.

Michigan

In Michigan several newspaper articles, window displays, fair exhibits, talks and show-me trips were the means by which information about blister rust was brought before the public. A blister rust exhibit case was assembled and displayed at various fairs in conjunction with the Michigan Department of Agriculture exhibits. Show-me trips were taken in which students from colleges and universities were shown infection areas near Isapeming and Iron Mountain.

Minnesota

During the year eight displays were set up which remained in place a total of 65 days. Six of these displays were placed at various county fairs and at the state fair. Two displays were used in merchants' windows. A total of six newspaper articles were published, totaling 53 column inches. A short news release was broadcast over radio station KWNO, Winona, summarizing eradication accomplishments in Winona County during the summer, calling attention to the cultivated black currant eradication program which was then in progress. During the summer a selected group of girl scouts representing scouh troops from all over the state were taken through the McFarland Lake Camp and surrounding area. A group of the Duluth Chamber of Commerce also visited this camp. The conservation class of the Grand Rapids High School, made up of juniors and seniors, were conducted on a short field trip to infection areas where they were able to view blister rust on both pines and ribes. Many other field trips and talks were given which are too numerous to mention. In addition to the specialized type of informational activity, several thousand bulletins were distributed to pine owners and others interested in the control of white pine blister rust.

Ohio

Motion pictures and talks were used to disseminate information on blister rust control in Ohio. In addition to this, several thousand bulletins were distributed to pine and black currant owners during the course of other work.

Wisconsin

During 1940 information on blister rust control was disseminated by the following means:

(1) Personal talks with Pine owners.
(2) County and State Fair displays.
(3) Kodachrome motion pictures of blister rust control activities in Wisconsin.
(4) Distribution of State and Federal publications.
(5) News articles in newspapers and in agricultural magazines.
(6) Scheduled talks at 4-H Club meetings and camps.
(7) Window displays.
(8) Special trips to pine infection study plots.

A few of the highlights of the informational program will be discussed as follows:

(1) A Kodachrome motion picture of white pine blister rust control activities in Wisconsin was completed and shown to the plant pathology class at the University of Wisconsin.
(2) A blister rust control display was set up at the Wisconsin State Fair, Milwaukee, in conjunction with the State Exhibit at the Plants and Flowers Building.
(3) The Milwaukee Journal published a feature article concerning Dr. Pikers' research project on the resistance of individual white pine trees to blister rust.
(4) Tom State Leader gave a radio talk over Radio Station WHA, Madison, Wisconsin, and its affiliated station WLBL at Stevens Point during the "Farm Program".
(5) A summary of white pine blister rust control work accomplished in the state during the past two calendar years was printed in the Wisconsin State Department of Agriculture Biennial Report for 1939-1940.
(6) A selected group of members of the 4-H Clubs of the state were taken on a "Show-me" trip through the Dells, to Blackhawk Island, where they were shown native white pine and informed of the efforts being made to control white pine blister rust. They were also shown specimens of infected pine and ribes. Much other informational work was carried on in addition to that enumerated above.

Milwaukee

Informational activities conducted out of the Milwaukee office consisted of a display in the Forest Service tent at the Milwaukee Midsummer Festival held during July, 1940. Approximately one-half of the 20 x 30 foot tent was used to display pictures, panels and maps. No official count was made of the number of people viewing the exhibit, although attendance broke all previous records, the official estimate being well over a million

attending during the week it was in session. Bulletins were distributed to festival visitors and many questions were answered pertaining to diseases and insects affecting white pine. No other informational work was attempted from the Milwaukee office.

Japanese Beetle Trapping

During 1940 the Bureau of Entomology in the North Central Region again cooperated with the Division of Japanese Beetle Control in setting up and inspecting Japanese beetle traps. Approximately twelve traps were placed in each town or city, namely, Lansing, Newaygo and Escanaba, Michigan; Milwaukee, Stevens Point and Menominee, Wisconsin; North Branch, Walker and Duluth, Minnesota; Ames, Iowa; and Wooster, Ohio. Traps were examined periodically once a week or not less than every two weeks. Specimens of all beetles were sent to Dr. P. H. Luginbill, Senior Entomologist, Division of Cereal and Forage Insect Investigations, Lafayette, Indiana. No Japanese beetles were caught during 1940. All other beetles were identified by Dr. Luginbill who is making a collection of different species of the genus "Phyllophaga".

Costs

Costs for 1940

Table 12 shows expenditures for all blister rust control work in the Milwaukee office during 1940, by funds and by codings, for salaries and expenses. It will be noted that $25,988.59 was required for the operation of this office. Of this amount $22,720.73 was spent for supervision; $3,267.86 was spent for field data; salaries required $22,625.50, and $3,363.09 was required for non-salary items.

Table 12a shows a summary of WPA administrative expenditures for the Milwaukee office during the calendar year 1940. These expenditures are broken down into appropriations and further into salary and non-salary items. A total of $6,700.76 was spent during the year for salaries which furnished employment in the amount of 45.5 man-months. The non-salary expenditure during the calendar year amounted to $1,382.85.

In Table 12b will be found a summary of the total North Central Region expenditures classified according to States and Agencies for the calendar year 1940. The total expenditures by all agencies amounted to $403,596.70. The total Regional expenditure is graphically shown in Chart 7. In 1940 there was a decrease of $60,673.20 from the amount shown spent in 1939. A comparison of the percentage of the total expenditures as shown in Chart 7 in the 1940 report, and Chart 9 in the 1939 report, will indicate that the expenditures by each state are comparable. The reduction in the amount spent is quite evenly distributed except in Illinois and Indiana, where an increase in the amount spent is noted. Indiana spent nearly twice as much in 1940 as in 1939. Ohio shows the greatest decrease of any state, due to a large reduction in the State WPA program.


WISCONSIN
OHIO
MICHIGAN

Chart B, based on Table 12b, shows graphically the total expenditures in the North Central Region by agencies and states. It will be noted that state and private agencies contributed 10%, Federal regular 11%, Emergency Relief 65.3% and CCC 13.5% of the total regional expenditures.

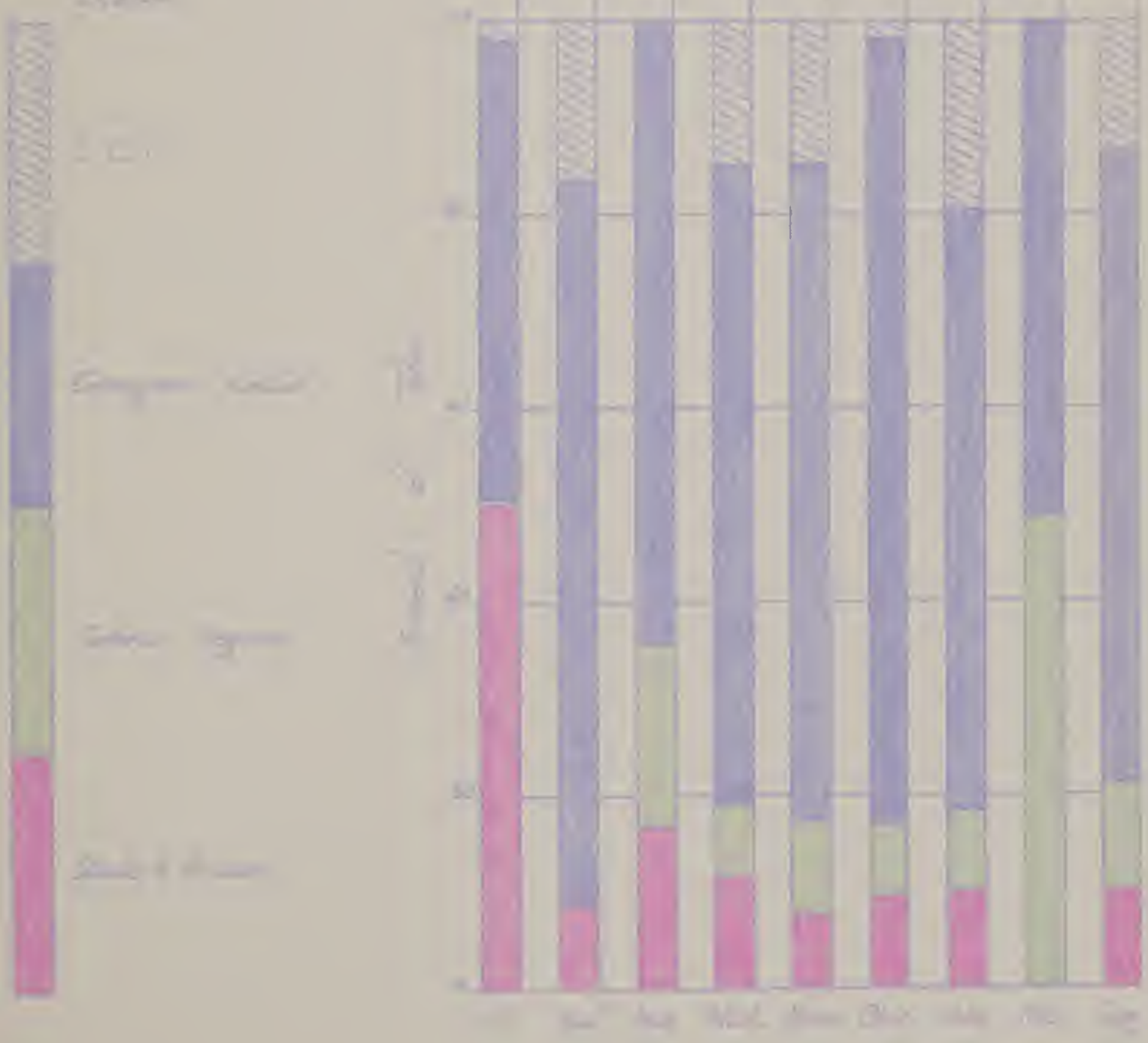


Table 12a shows the North Central Region expenditures for 1940 classified according to states and activities. Chart 9 shows graphically the percentage of expenditures in each state classified by activities. In comparing this chart with the similar chart in the 1939 report, there is noted an increase in percentage of funds expended for general supervision, field data and nursery sanitation. A decrease is noted for cultivated black currant elimination, pre-eradication survey, and ribes eradication. The decrease for ribes eradication is explained by the fact that a considerable amount of work is done by district leaders and others in a supervisory class, who, for ease in keeping records, charge their time to general supervision rather than to ribes eradication. District leaders and supervisors often scout out a ribes-free area, and instead of charging this to ribes eradication their time is charged to general supervision. Reduction in the number of laborers does not make a corresponding reduction in the amount of supervision. This tends to increase the percent of cost for supervision, since a certain amount of general supervision must be carried in spite of the decrease in the number of laborers.

EXHIBIT D

Showing Percent of Expenditures in Each State Classified by Activities
North Central Region, 1940. Based on Table 12a.

Activity	Amount	Ill.	Ind.	Iowa	Mich.	Minn.	Ohio	Wis.	Mil.	Region
		%	%	%	%	%	%	%	%	%
General Supervision	116,157.74	51.3	22.7	35.1	22.6	32.3	26.3	18.3	87.4	28.8
Field Data (a)	22,681.52	0.0	1.8	0.0	6.7	4.3	2.1	6.4	12.6	5.6
Nursery Sanitation	4,487.01	0.0	0.0	0.3	1.8	2.3	0.0	0.4	0.0	1.1
C.B.C. Elimination (b)	42,895.71	0.0	0.0	11.0	10.8	4.1	45.8	6.2	0.0	10.5
Preeradication Survey	8,434.57	2.0	2.2	8.4	0.7	3.1	3.6	1.8	0.0	2.1
Ribes Eradication	209,388.15	46.7	73.3	45.2	57.4	53.9	22.2	66.9	0.0	51.9
Total	403,596.70	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Nursery Owner printing in Michigan
(b) Includes Value of Cultivated Ribes destroyed, $564.50 in Iowa, $2013.00 in Michigan; $165.75 in Minnesota, $647.25 in Ohio, $559.50 in Wisconsin and a Total of $4,945.00 in the Region.

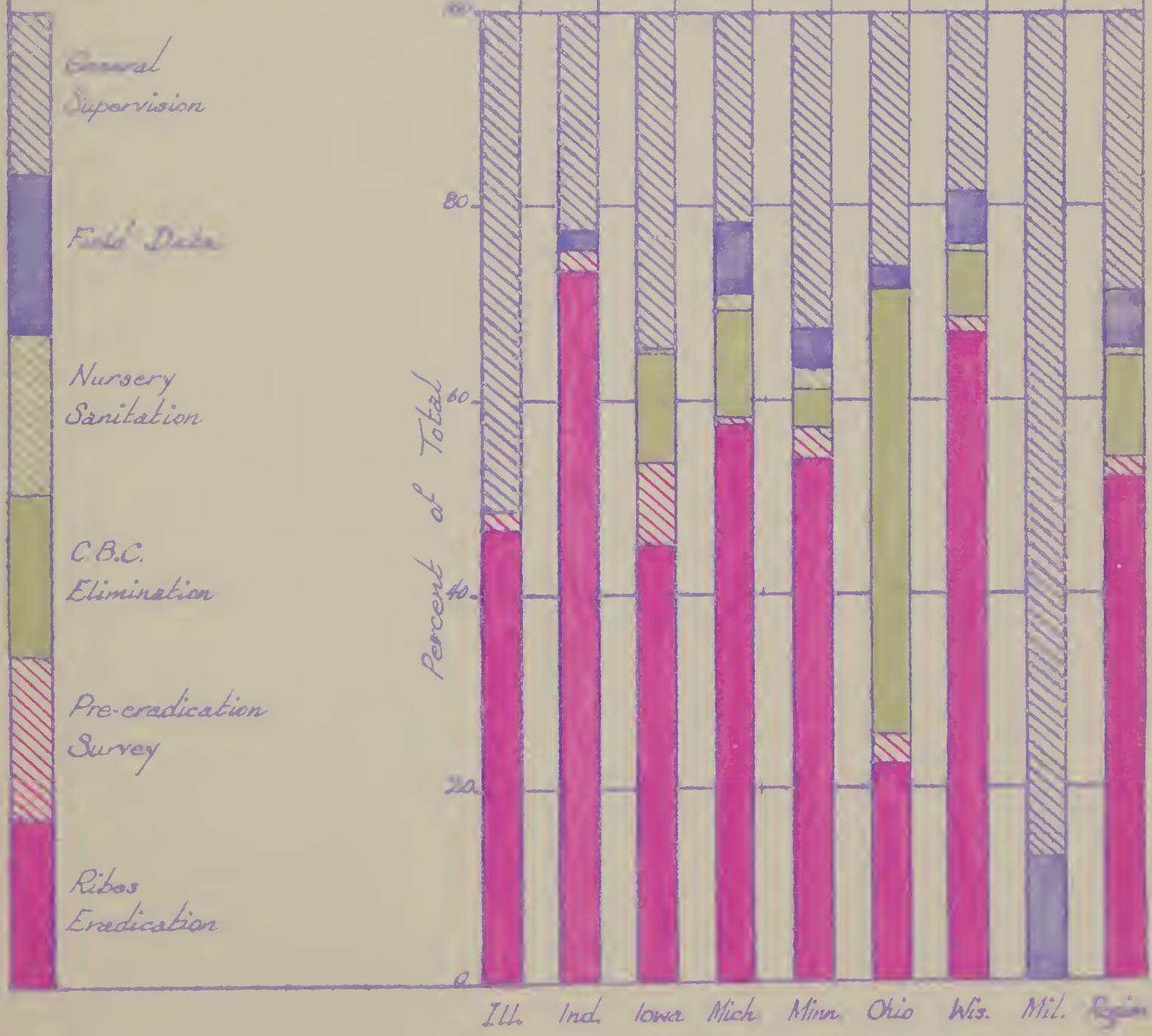


Table 12d shows the total regional expenditures by States, divided into the amount spent for wages and that spent for other than wages. The figures show that 87% of the total expenditure was used for wages. The average for each state does not deviate very far from this regional average.

Accumulated Expenditures to December 31, 1940

In Chart 10 the accumulated expenditures for the North Central Region from 1918 to 1940 are shown graphically. This chart is based on Omnibus Table 14, sheet 1. It will be noted that the expenditures by state and private agencies are fairly constant for all states except Illinois. Illinois has for some time provided a state leader on state funds on practically a year-around basis. Regular Federal funds have been fairly constant for each state except that they are very low in Illinois and slightly higher in Minnesota than in any of the other states. Ohio shows the largest percentage of its funds were secured from agencies such as WPA, CWA and ERA. Wisconsin shows a higher proportion of CCC funds used than any other state.

From Chart 10 it will also be noted that emergency funds make up over half of the total expenditures for this cumulative period. Under WPA, ERA and CWA the total expenditure amounts to 52.9%.

CHART 10

Showing Percent of Expenditures in Each State Exclusive of Milwaukee Made by Each Agency in the North Central Region 1918 to 1940 Inclusive.
Based on Omnibus Table 4A, Sheet 1

Agency	Amount	Ill.	Ind.	Iowa	Mich.	Minn.	Ohio	Wis.	Region
	$	%	%	%	%	%	%	%	%
State & Private	498,048.90	29.8	10.1	11.9	13.4	9.1	10.0	9.0	10.7
Federal Regular	365,324.87	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.8+
W.P.A., C.W.A. & E.R.A.	2,461,375.61	53.5 -	62.8	64.9	53.1	53.1	70.5	47.0	52.9
C.C.C. & E.C.W.	1,105,256.30	10.0	15.8	8.2	21.8	18.9	9.4	34.1	23.7
P.W.A.	225,258.57	5.6	7.5	6.6	5.0	6.7	5.1	3.2	4.9
Total	4,655,964.25	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

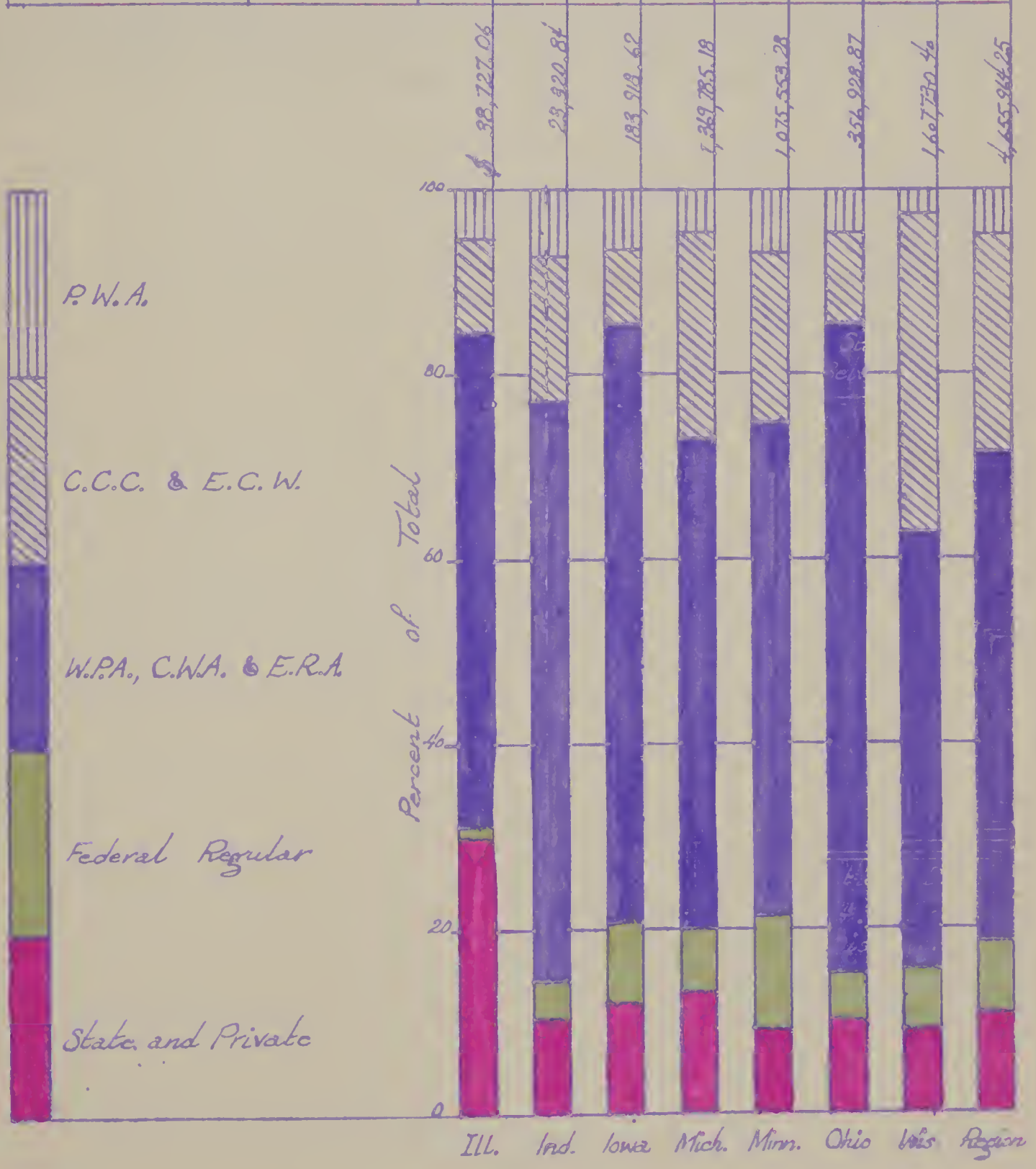


Chart 11 shows the percentage of expenditures by States and Activities in the North Central Region for the period 1918 to 1940, inclusive. In this chart it will be seen that over half of the funds expended are for ribes eradication. Here again it is important to mention that the figure 55.6% spent for ribes eradication is lower than it actually should be. As previously mentioned in this report, a considerable amount of supervisory time is charged to general supervision when it should actually be charged to ribes eradication. This is done to avoid a complicated bookkeeping system. All state and district leaders charge their time to general supervision for ease of bookkeeping rather than to the various activities in which they may be engaged.

Wisconsin shows the lowest percent spent on supervision of any state in the region. Illinois shows the highest percent spent on supervision, which is due to the small program operated there.

In comparing Chart 11 in this report with the comparable Chart 15 in the 1939 report, it will be seen that the percentage of funds spent on general supervision is slightly higher in 1940 than it was in 1939. Ribes eradication shows a slight decrease of 0.1% in 1940.

CHART 11

Showing Percent of Expenditures in Each State Exclusive of Milwaukee, charged to Each Activity, North Central Region, 1918 to 1940 Inclusive. Based on Omnibus Table 4A, Sheet 2.

Activity	Amount	Ill.	Ind.	Iowa	Mich.	Minn.	Ohio	Wis.	Region
General Supervision	$ 715,149.23	38.6	28.6	21.7	17.5	20.7	19.5	12.6	16.6
Field Data (a)	348,296.96	4.9	2.4	0.3	5.7	14.1	5.7	5.7	7.5
Nursery Sanitation	91,995.97	2.5	1.4	1.9	2.6	1.4	2.6	1.7	2.0
C.B.C. Elimination (b)	531,048.52	0.0	2.9	14.6	12.0	4.2	36.2	10.3	11.4
Pre-eradication Survey	312,034.52	2.1	6.7	10.1	5.6	10.4	5.2	5.2	6.7
Ribes Eradication	2,597,439.05	51.9	58.0	51.4	56.6	48.9	36.8	64.5	55.3
Total	4,655,964.25	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Value of Cult. Ribes destroyed
(b) Includes Canker Pruning Costs

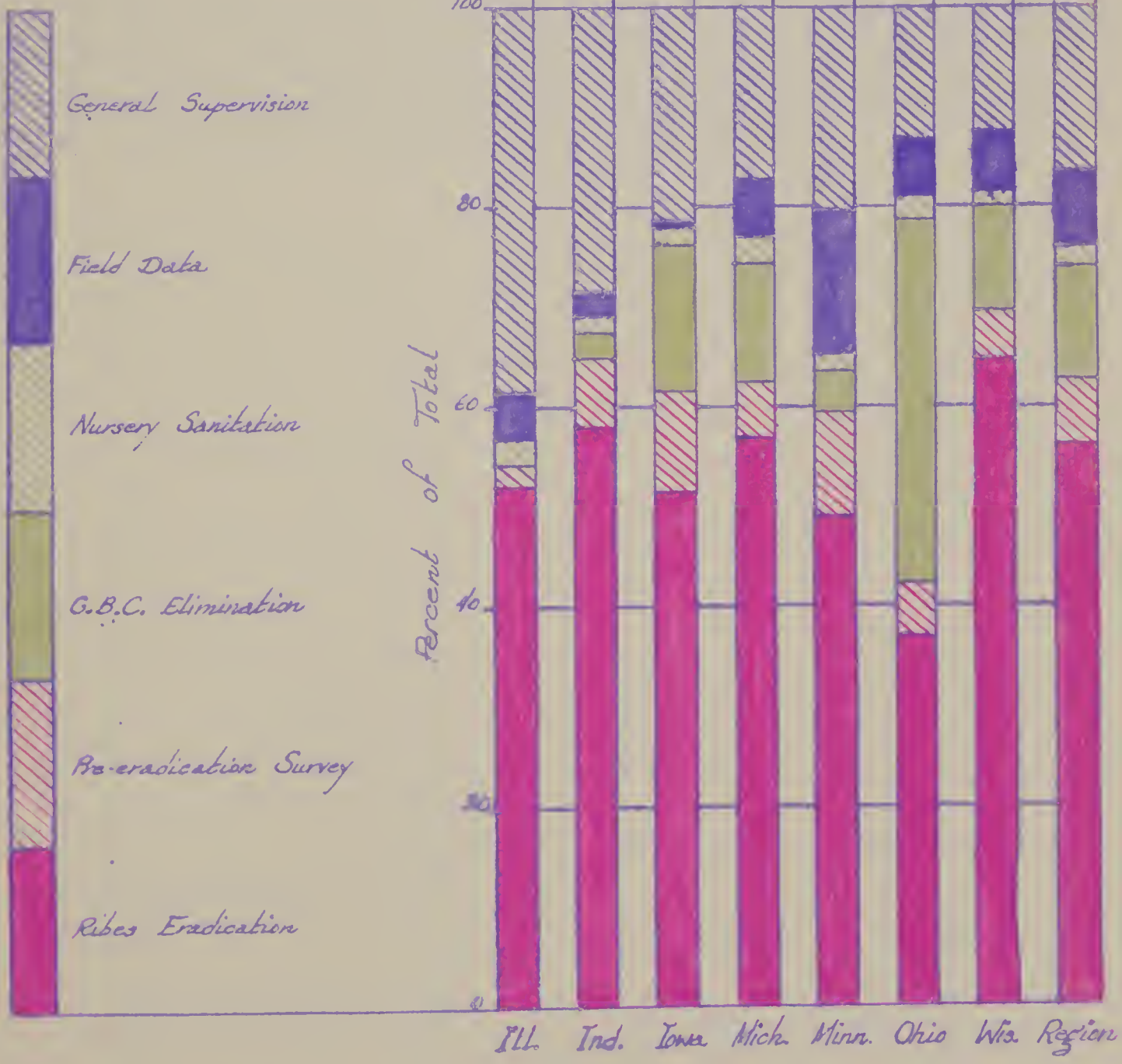


Chart 12 shows graphically the expenditures in the North Central Region by Years and Activity. This chart is based on cost tables from annual reports of the years 1933 to 1940, inclusive, and shows the beginning of larger expenditures with the advent of the emergency program beginning in 1933. There was a large increase of emergency funds in 1934 over those of 1933. A smaller increase occurred in 1935 and a greater increase in 1936. Since 1936 there has been a gradual tapering off. In 1937 expenditures were not quite as high as in 1934, when the biggest increase occurred. The years 1938 and 1939 were fairly constant with a decrease showing in 1940.

Percentages of funds spent for local control are fairly constant except for the year 1937 when this activity showed almost a 17% decrease from the average of the period 1933 to 1940. During 1937 there was an increase in percentage of funds spent on pre-eradication survey over all of the other years except 1933. The chart also indicates that there has been more or less of a gradual decrease in the percentage of money spent on pre-eradication since 1937. This is due to the fact that most of our pre-eradication survey work has been completed.

Since 1937 there has been a gradual decrease in the percentage of funds used for cultivated black currant elimination.

Since 1936 there has been a gradual increase in the percentage of expenditures required for general supervision. This is more or less a normal tendency due to the decrease in size of the organization. It is difficult to reduce supervision in direct proportion to the decrease in the number of people to be supervised.

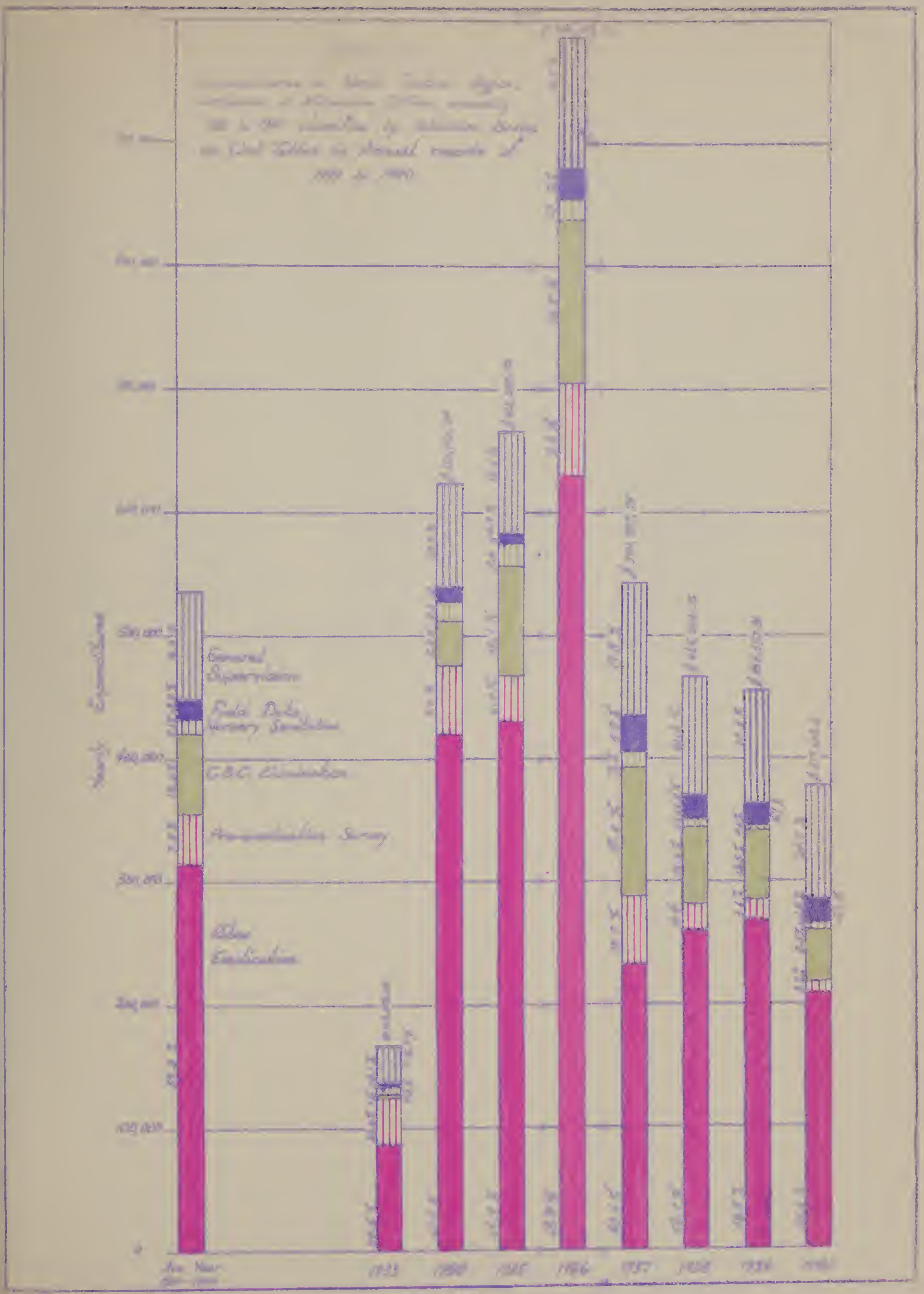

General Supervision
Field Data Verification
CBC Elimination
Household Survey
Other Enumeration

Chart 13 shows expenditures in the North Central Region, exclusive of the Milwaukee office, by years, from 1933 to 1940, inclusive, classified by agencies and yearly expenditures. This chart is also based on annual cost tables in the Regional Annual Reports for the years 1933 to 1940. It is interesting to note in this chart a more or less gradual increase of state and cooperative funds up to the peak year of 1937 and the very small but gradual decrease of these funds from 1938 to the present time. This build-up to the year 1937 and the decrease since then, is fairly constant for all agencies. However, the year 1933 showed the highest proportion of CCC funds to the total expended in any one year of the period. Since 1933, CCC expenditures have gradually decreased in proportion to other agency expenditures. Other agencies, such as Public Works Administration, Civil Works Administration, and Work Projects Administration did not get into full swing until the years 1935 and 1936.

Expenditures

Salaries

C.C.C.

C.W.A.

W.P.A.

F.E.R.A.

Federal Agencies

State and Operations

1933 1934 1935 1936 1937 1938 1939 1940

Expenditures in the North Central Region exclusive of the Milwaukee Office, annually 1933 to 1940, Classified by Agencies. Based on Data Tables in the Annual Reports 1933 to 1940.

Number of Man-months Employment

Table 15 above shows the approximate number of man-months employed in the Milwaukee Regional Office in 1940 by Program, Position and Months. This table shows the number of people employed on Bureau Regular funds, Forest Service Regular funds and WPA administrative and Project funds, and on NYA. During the summer months of 1940 it was very difficult to find WPA certified workers such as typists and stenographers and it became necessary to ask for assistance from the National Youth Administration. During the months of July, August and September, clerical help was very scarce and the people available on WPA lacked experience. In order to relieve the pressure of work somewhat we received authorization from the Wisconsin WPA State Administrator to employ one non-certified security wage earner as a typist.

Table 16 shows the approximate number of man-months employed by months, program and position in the North Central Region during 1940. Accurate figures are available under Federal WPA program since these figures are taken from our payroll abstract sheets. Figures are also accurate showing employment under Regular funds. Figures for other agencies are our best estimates based on the submitted reports by these agencies.

In comparing Table 16 in the 1940 report with comparable Table 2 in the 1939 report, a decrease is noted of 1,355.7 man-months of employment. A decrease in the employment of supervisors is also noted. The largest decreases are shown in the State and WPA agencies. An increase occurs in the number of Forest Service CCC man-months spent during 1940. Increases are also noted in the Soil Conservation CCC and Park Service CCC. Decreases, however, appear in State CCC and Indian Service CCC.

Table 17 lists the number of man-months employed for all programs by States and Positions for the calendar year 1940. Chart 14, which is based on Table 17, shows graphically by states, the relationship in the number of man-months employment between supervisory personnel and labor. It is evident that the amount of supervision is not directly proportional to the total amount of man-months employed. For instance, Illinois shows 34.3% supervision, whereas Indiana shows only 9.4%. Michigan, with a large number of employees, showed only 14.6% supervision. Wisconsin, with an even larger total number of employees, showed only 11.6% supervision.

Table 17 also shows a wide variation in the number of people employed by months. It indicates that the big season for blister rust control employment runs from May to September. This employment peak is due to the local control program being in full swing during these months. The employment during the late fall, winter and early spring months is fairly constant.

CHART 14

Total Man Months Employment Calendar Year 1940
By States Based on Table 17.

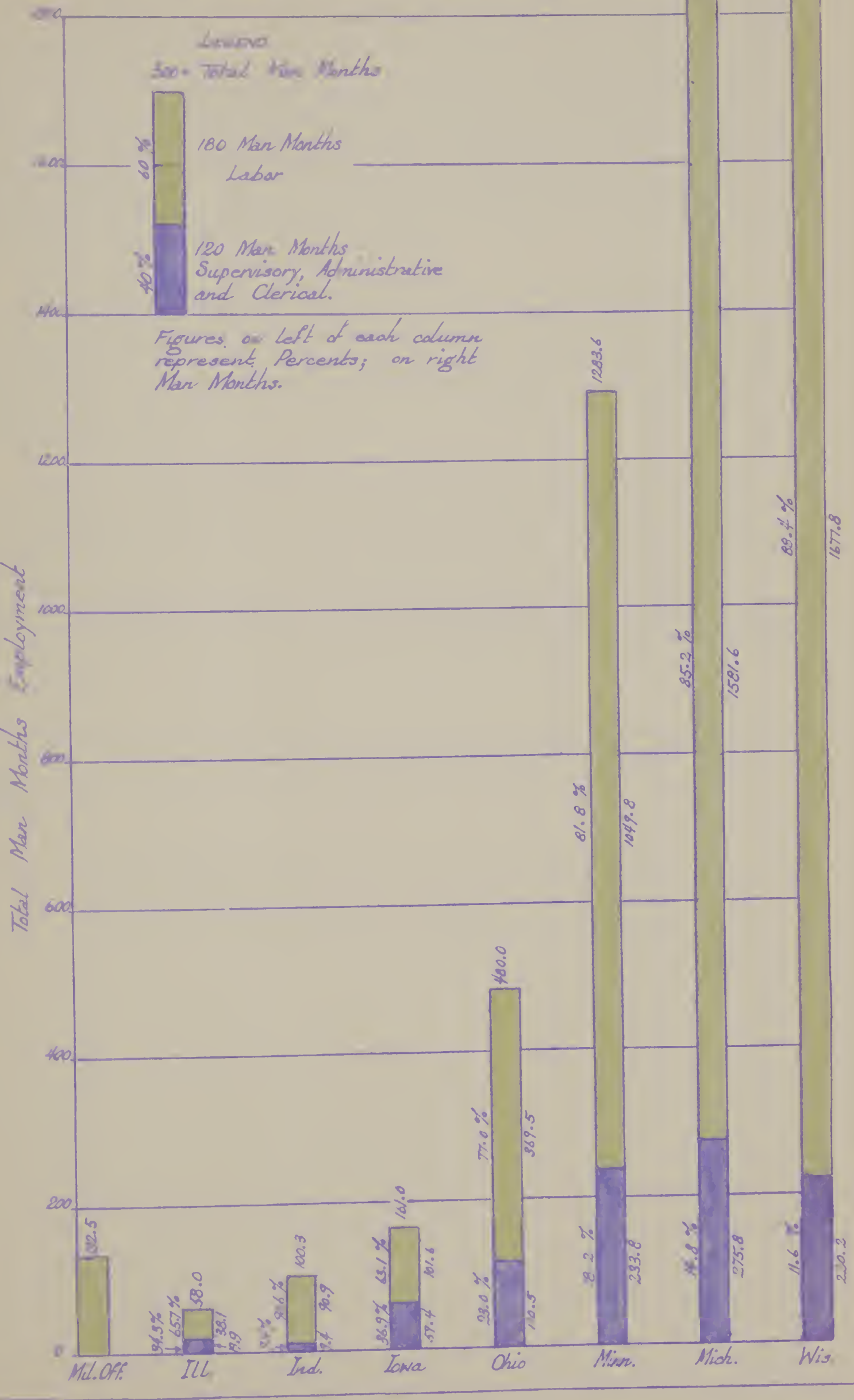


Chart 15 shows the man-months employment by months and agencies. In comparing Chart 15 with the corresponding Chart 1 in the 1939 report, it will be noted that the State and Regular agency employment remains fairly constant during the entire year. This is due to the fact that the skeleton organization is employed almost entirely on State and Regular funds. The emergency agencies, such as Work Projects Administration and Civilian Conservation Corps, contribute man-months according to the season of the year when outdoor work such as local control can be best accomplished, which is during the summer months. Employment in 1940 was lower than in 1939 in each month except July and August. During 1940 the employment during these two months was slightly higher than for the corresponding period in 1939.

Chart 16 shows the approximate number of men employed by months and position classes during 1940. This chart is based on Table 16, and shows graphically the number of people employed, according to their positions, such as leaders, supervisors, foremen, laborers and clerks. Here again the chart shows the uniformity of supervisory personnel which goes to make up the skeleton force which is employed for the entire year.

A comparison between the number of people employed in 1940, and the number employed during the period 1934 to 1939, by agencies, is shown graphically in Chart 17. The percentage employed on Regular funds during 1940 is approximately twice as high as in the period from 1934 to 1939. In the Civilian Conservation Corps agency the percentage employed in 1940 is considerably lower than in the earlier accumulated period. The Work Projects Administration agency provided 68.2 of the man-months during 1940 as compared to 31.2 in the period 1934 to 1939.

Chart 18 shows graphically the number of man-months employed under the Work Projects Administration program by months and wage classes. The average monthly employment by wage classes is listed as follows:

Appointed and Non-relief	14.1
Skilled Relief	37.3
Intermediate Relief	91.0
Unskilled Relief	291.0

CHART 15

Showing the approximate number of men employed by Months and Agencies in the North Central Region, 1940. Based on Table 16.

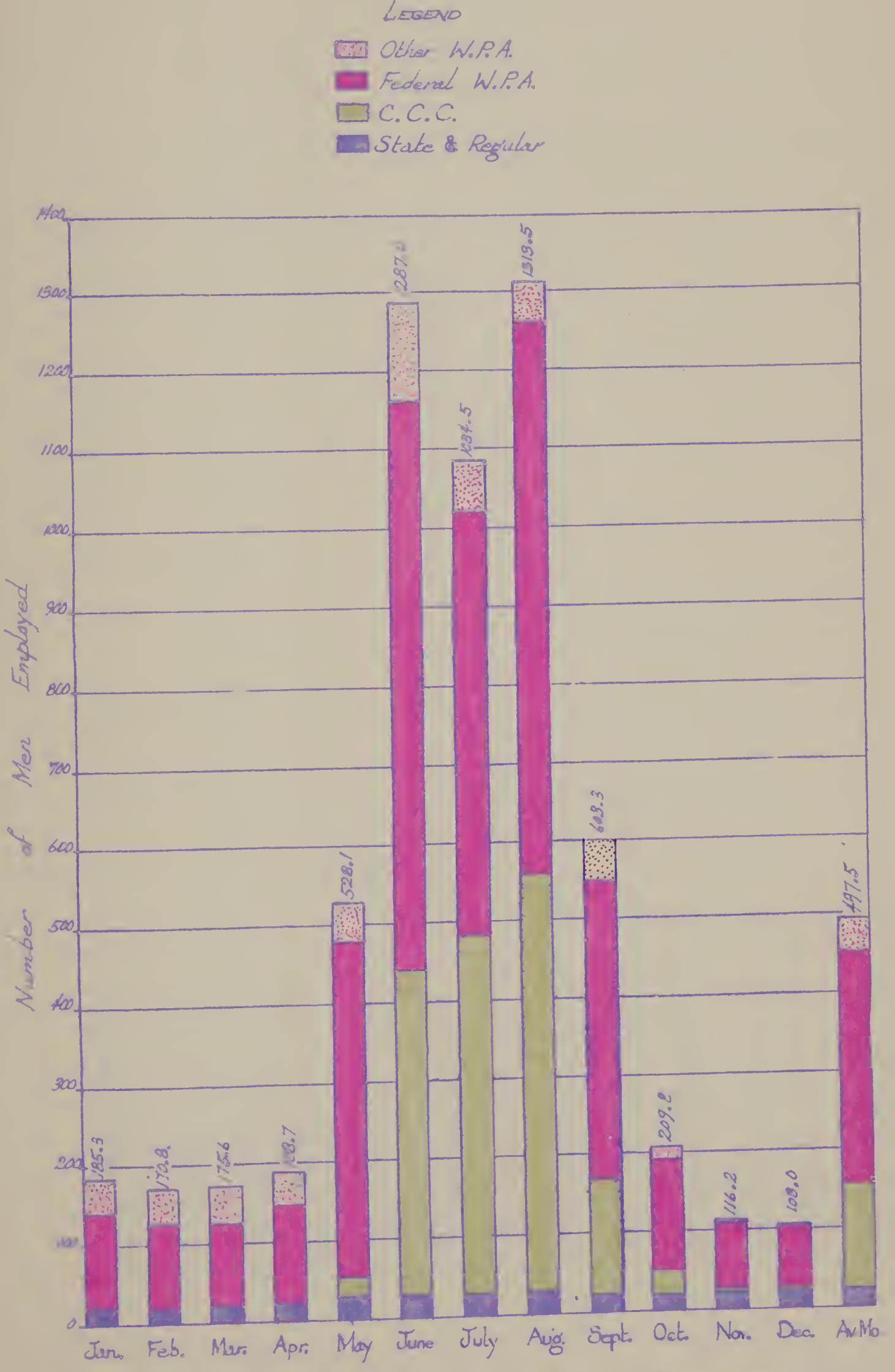
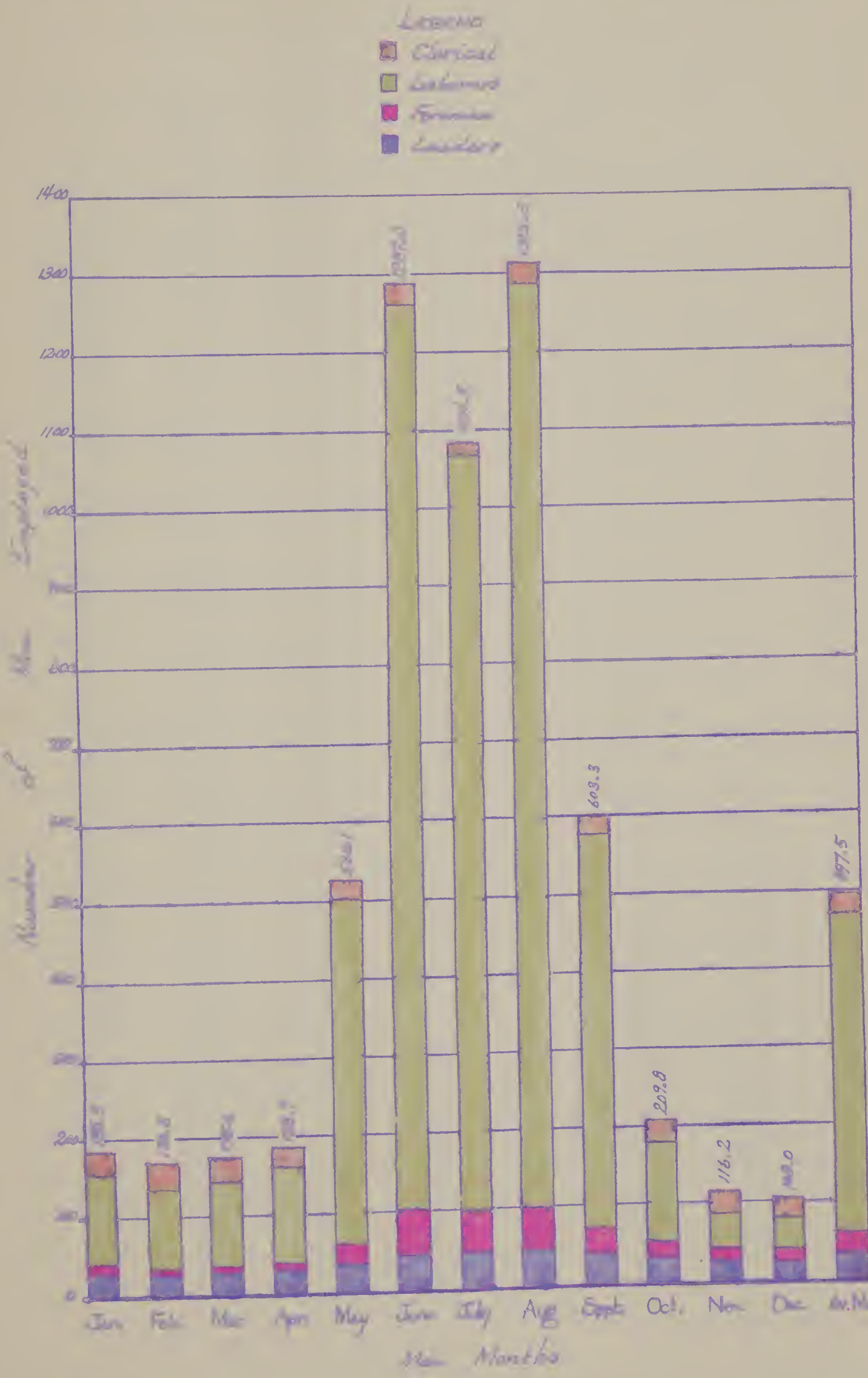


Chart 6

Showing the approximate number of men employed by Mbaike and Nwaiboa Cleaners, North Central Region, 1990 based on Table 16.



Number of Men employed on the Building and Civil Engineering Programme in Northern Ireland during the years 1934 to 1940 and Total Number of years unemployment

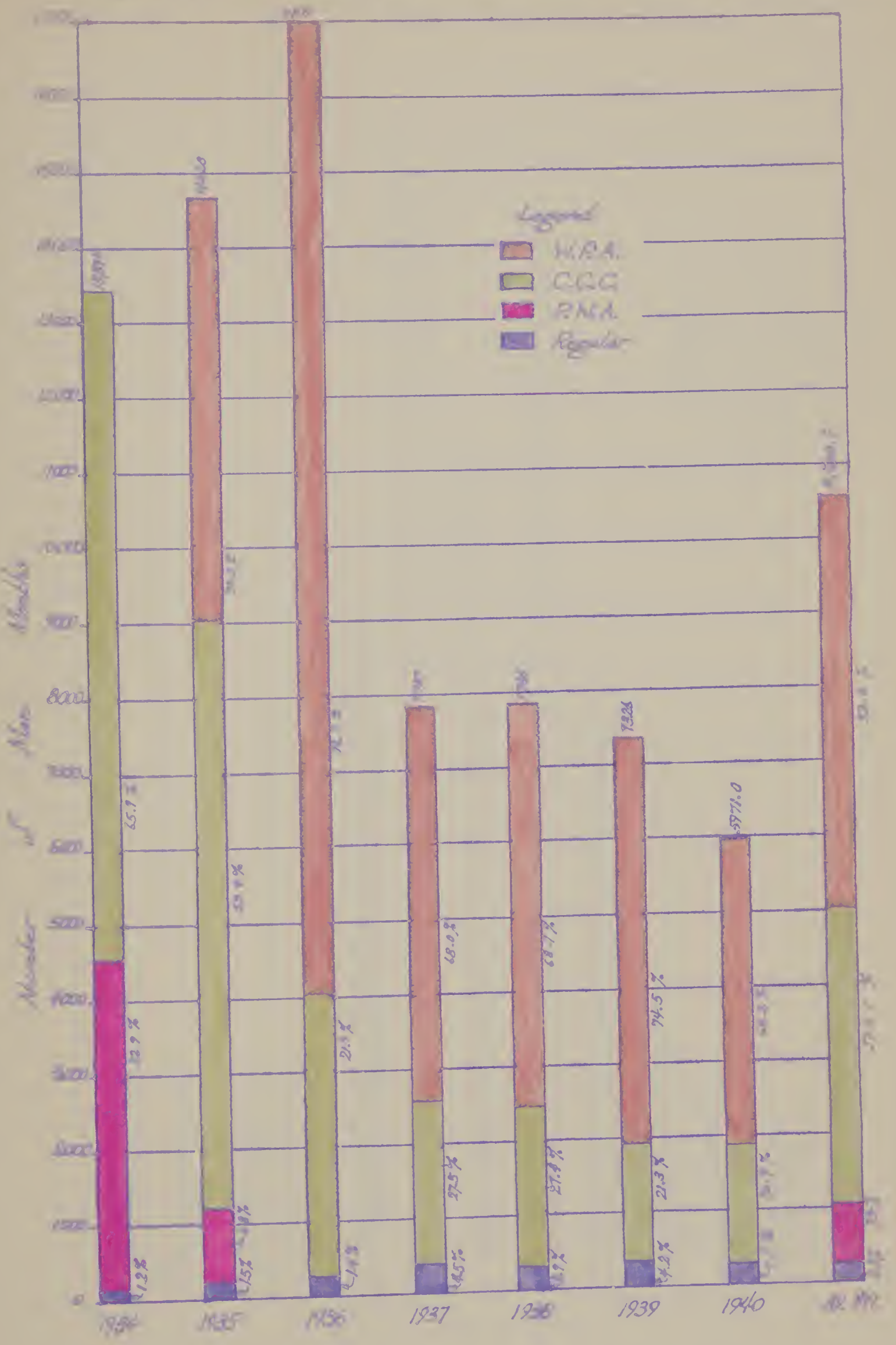
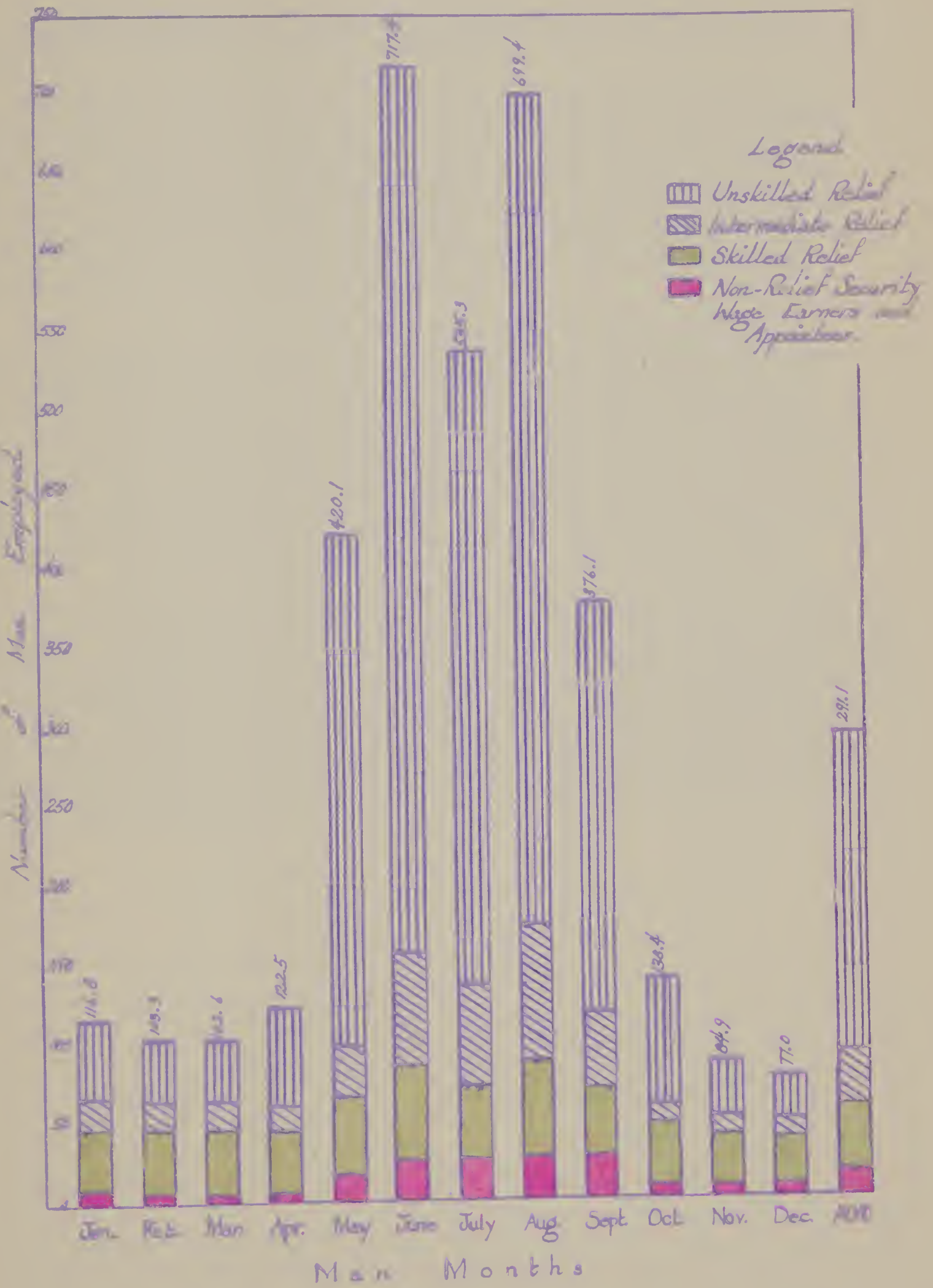


CHART 18

Showing number of Men employed on Federal W.P.A. by Months and Classifications for the North Central Region, 1940. Based on Table 18.



Compensation Cases

Table 17 lists the number of compensation cases involved by States and Causes of Injury.

Table 20 lists the number of compensation cases involved by WPA workers by Months and Types of Injury.

Table 19 shows that ivy and other plant poisoning make up the greatest number of compensation cases in this region. This has also been true in previous years although the number of ivy poisoning cases during 1940 were considerably less than the number reported in 1939. It is believed that the reduction in the number of ivy poisoning cases is due to more intensive training given the men and attempting to inform them of the risks involved, as well as teaching them the identification of these poisonous plants.

When put on a basis of 1,000 man-months, Iowa again leads in the total number of compensation cases at the rate of 34 per 1,000. Ohio is last with 7.2 per 1,000 man-months. Michigan and Wisconsin have the greatest number of compensation cases viz., 9 in each State. A total of 34 compensation cases was reported to the Milwaukee office in 1940. There were 49 compensation cases reported in 1939. The average per 1,000 man-months is only slightly less in 1940, or 9.6, whereas in 1939 the average was 10.75. The reduction on the basis of 1,000 man-months indicates a better record in 1940 than in 1939.

In considering compensation cases on a monthly basis, we find that all accidents took place between the months of March and September, inclusive. During April, however, there were no compensation cases reported. The greatest number of injuries reported occurred in July, with August and September very near the same figure. This is logical because the largest number of people were employed in the woods during these months. Ivy poisoning, which is responsible for the greatest number of compensation cases, showed us to be most prevalent during the months of June, July and August.

Automobile Accident Cases

During 1940 there were 20 passenger carrying cars and 51 trucks operating in the North Central Region. An excellent record was attained in that only four accidents were recorded and these were of a very minor character. These accidents are described as follows:

1. Ford pick-up, 1934, license U.S.D.A. 56-636:
   Place - Cleveland, Ohio
   Date - May 11, 1940
   Cause - A private car traveling in front of Government car stopped suddenly. The Government car struck rear end of private car. WPA foreman, driver of Government car, arrested and fined for intoxication.
   Damage - Bent front axle, bent bumper and slight dent in radiator grill of Government car. Rear end of private car dented.

2. Ford V-8 Coach, 1937, license U.S.D.A. 55-166:
   Place - St. Paul, Minnesota
   Date - July 7, 1940
   Cause - Congested traffic required Government car to stop. Car following hit Government car lightly.
   Damage - To Government car, none. Private car damaged radiator grill and front fender.

3. Ford pick-up, 1934, license U.S.D.A. 56-636:
   Place - Cleveland, Ohio
   Date - April 11, 1940
   Cause - Hard rain, poor visibility. Government car started making left turn when private car behind suddenly attempted to pass.
   Damage - To Government car, none. Private car received small dent in right front fender.

4. Chevrolet panel truck, 1939, license U.S.D.A. A6-365:
   Place - Superior, Wisconsin
   Date - November 6, 1940
   Cause - Government car was leaving parking space at curb when a city passenger bus was passing.
   Damage - Government car received dent in left front fender. No damage to bus. Accident unavoidable according to witnesses. Damage to Government car paid for by Government.

Construction and Repair of Government Equipment

The district leader in North Branch, Minnesota, with several of his assistants (security wage workers), has constructed some equipment for use in camps and offices. After the fall eradication in the North Branch district work was begun on the construction of a trailer house for use as headquarters for a mobile crew. It is planned to use several mobile units throughout the State. By parking the trailer, which serves as office and cook-house, on or near the job, a considerable amount of travel time is saved. Also, by providing a tent or two for the men to sleep in they can live on a much lower daily per diem than if they had to stay at hotels and board at restaurants.

In addition to the construction of a trailer house, work was also started on a portable two-car garage which can be knocked down and reassembled at any desired location in a very short time. Work is also progressing on filing cases and office furniture, such as chairs and desks.

The large boats previously mentioned were constructed by WPA men working in the Duluth district.

Very little work along these lines has been done by any other state in the region. However, Michigan repaired many of their own trucks and passenger cars by using WPA laborers during the winter months.

It is hoped that tools and necessary machinery can be acquired by means of transfer from other agencies or by outright purchase to equip a garage in each of the three Lake States where at least minor repair work can be done on all of the automotive equipment assigned to them. This would result in a considerable saving and also provide useful work for laborers whose services are desired during the following summer months on rivas eradication.

Table 1. Pre-eradication Surveys Performed in North Central Region, 1940, by Programs and States.

Program	Total Acres White Pine & W.P. Planting Sites Mapped	Acres WP and WPPS Mapped Worth Prot. Native White Pine	Planted W.P. and W.P.P.S.	Total	Acres to Work	Costs of Survey Man-days	Amount
Illinois							
State	223	23	200	223	3,072	30.4	a
W.P.A.	17	-	11	11	1,026	17.5	$125.62
Total Illinois	240	23	211	234	4,098	47.9	[illegible]
Indiana							
Regular	74	-	74	74	949	-	a
W.P.A.	1,006	51	955	1,006	12,269	16.5	110.81
Total Indiana	1,080	51	1,029	1,080	13,218	[illegible]	[illegible]
Iowa							
W.P.A.	321	191	74	265	4,130	31.1	1,104.60
Michigan							
State	1,062	1,018	43	1,062	3,320	9.0	66.60
W.P.A.	4,034	1,742	2,292	4,034	24,633	114.0	717.85
Total Michigan	5,096	2,760	2,335	5,096	27,953	123.1	[illegible]
Minnesota							
W.P.A.	17,480	7,403	9,977	17,380	93,727	4,000	1,000.00
Ohio							
State-W.P.A.	174	40	134	174	4,947	277.2	1,245.41
W.P.A.	886	35	851	886	17,645	37.1	167.07
Total Ohio	1,060	75	985	1,060	22,592	314.3	1,412.48
Wisconsin							
State	398	102	281	383	5,760	10.0	73.75
State-C.C.C.	241	201	40	241	740	2.0	12.00
W.P.A.	17,949	14,816	1,160	16,276	71,698	457.0	2,033.13
Total Wisconsin	18,588	15,119	1,481	16,900	78,198	469.0	[illegible]
Region Total							
Regular	74	-	74	74	949	-	a
State	1,683	1,144	524	1,668	12,352	49.4	140.35
State-C.C.C.	241	201	40	241	740	2.0	12.00
State-W.P.A.	174	40	134	174	4,947	277.2	1,245.41
W.P.A.	42,601	23,811	18,970	42,781	257,456	1,661.1	6,527.55
Total Region	44,773	25,196	19,742	44,938	276,444	1,989.7	[illegible]

a - Charged to other activities.

Table 1a. Resurvey Work, North Central Region, 1940.

Agency Performing Work	Total Resurvey			Set North Protecting		North Protecting		Does	
	No. Areas	Acres White Pine	Acres Control area	Acres White Pine	Acres Control Area	Acres White Pine	Acres Control Area	8-Hour Man-days	Amount
Michigan									
State	72	4,520	16,883	2,109	7,174	2,411	9,709	42	$313.09
F.E.-C.C.C.	6	594	1,550	188	659	106	892	8	41.18
N.Y.A.	377	26,960	105,773	12,850	52,092	15,400	55,681	335	1,810.50
Total Michigan	455	32,074	124,206	15,147	59,925	17,917	66,282	385	2,164.77
Minnesota									
N.Y.A.	28	1,981	10,194	1,196	4,177	1,787	11,788	171	922.40
Ohio									
N.Y.A.	14	1,000	3,000	400	1,000	500	2,000	*	*
Wisconsin									
State	72	4,520	16,883	2,109	7,174	2,411	9,709	42	313.09
F.E.-C.C.C.	6	594	1,550	188	659	106	892	8	41.18
N.Y.A.	823	57,055	238,112	18,898	73,103	18,157	64,709	506	2,719.75
Total Wisconsin	901	62,169	256,545	21,195	80,936	20,674	75,310	556	3,074.02

* - All data taken from pine ledger books in Worcester, Mass office. Charged to clerical work.

| State | Agency | No. Areas | Acres | Expenditures | | |

State	Agency	No. Agencies	Police Officers Employed			Civilians Employed			
			Total	Officers per 1,000 Inhabitants	Officers per 100 Square Miles	Total	Civilians per 1,000 Inhabitants	Civilians per 100 Square Miles	Total Employees per Officer
Colorado	S.P.A.	23	11	1.1	0.1	10,000	0.1	0.1	0.1
	S.P.A.-Co.S.O.	1	1	1.1	1.1	1,000	0.1	0.1	0.1
	Other	1	1	1.1	1.1	1,000	0.1	0.1	0.1
	Private	1	1	1.1	1.1	1,000	0.1	0.1	0.1
	Total	26	14	1.4	0.1	13,000	0.1	0.1	0.1
Indiana	S.P.A.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.S.O.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Campus	1	1	1.1	1.1	1,000	0.1	0.1	0.1
	Total	3	2,000	2.2	0.2	2,000	0.2	0.2	0.1
Iowa	S.P.A.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Township	1	1	1.1	1.1	1,000	0.1	0.1	0.1
	Campus	1	1	1.1	1.1	1,000	0.1	0.1	0.1
	Total	3	3	3.3	0.3	3,000	0.3	0.3	0.1
Kentucky	S.P.A.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.S.O.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Municipal P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	State Park P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Campus	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Hospital	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Total	7	7,000	7.7	0.7	7,000	0.7	0.7	0.1
Maine	S.P.A.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Municipal P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.S.O.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Total	3	3,000	3.3	0.3	3,000	0.3	0.3	0.1
Minnesota	S.P.A.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.S.O.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Municipal P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	State Park P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Campus	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Hospital	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Total	7	7,000	7.7	0.7	7,000	0.7	0.7	0.1
Missouri	S.P.A.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.S.O.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	S.P.A.-Co.P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Municipal P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	State Park P.D.	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Campus	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Hospital	1	1,000	1.1	0.1	1,000	0.1	0.1	0.1
	Total	7	7,000	7.7	0.7	7,000	0.7	0.7	0.1

a - Supervision changed to Level 1/12/1974.
b - Included in S.P.A. data.

Table 4a. Summary of Surface Coal

State	Ownership Class	No. Mines	Coal Mined (1,000 Tons)	Percent of State Total	Value ($1,000)	Value per Ton ($)
Illinois	Private	60	57	57	1,[illegible]	[illegible]
Indiana	Other Public	1	40	1	[illegible]	[illegible]
	Private	37	3	42	77	3
	Sub-total	38	43	43	[illegible]	[illegible]
Iowa	Private	20	2	2	[illegible]	[illegible]
Kentucky	U.S.F.S.	23	1,286	1.0	[illegible]	[illegible]
	Other Public	40	1,016	1.0	1,[illegible]	[illegible]
	Private	305	40,477	38	1[illegible]	[illegible]
	Sub-total	368	[illegible]	[illegible]	[illegible]	[illegible]
Maryland	U.S.F.S.	1	[illegible]	[illegible]	[illegible]	[illegible]
	Other Public	23	2,[illegible]	1.[illegible]	[illegible]	[illegible]
	Private	41	1,[illegible]	[illegible]	[illegible]	[illegible]
	Sub-total	65	[illegible]	[illegible]	[illegible]	[illegible]
Ohio	U.S.F.S.	1	[illegible]	[illegible]	[illegible]	[illegible]
	Other Public	1	[illegible]	[illegible]	[illegible]	[illegible]
	Private	163	36,[illegible]	34.[illegible]	[illegible]	[illegible]
	Sub-total	165	[illegible]	[illegible]	[illegible]	[illegible]
Pennsylvania	U.S.F.S.	32	1,[illegible]	1.[illegible]	[illegible]	[illegible]
	Nat'l Park	1	1[illegible]	[illegible]	[illegible]	[illegible]
	Other Public	20	1,[illegible]	1.[illegible]	[illegible]	[illegible]
	Private	462	4,[illegible]	4.[illegible]	[illegible]	[illegible]
	Sub-total	515	[illegible]	[illegible]	[illegible]	[illegible]
Region Total		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 4b. Summary of Surface Coal [illegible] Coverage, Types Tested, Region [illegible]

State	Ownership Class	No. Mines	Coal Mined (1,000 Tons)	Percent of State Total	Value ($1,000)	Value per Ton ($)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

State	Ownership Class	No. Lines	Pipeline Miles	No. Tanks	Tank Capacity	Lines
Nebraska	Other Public	2				
	Private	20	21	12	18	1
	U.S.G.S.					
Nevada	Other Public	1	20	10	15	1
	Private	101	115	75	100	1
	U.S.G.S.	1	1	1		
Texas	Private					
Wyoming	U.S.F.S.		1,001	1,000	1,000	1,001
	Other Public	40	100	100	40,000	1
	Private	20	20,000	100	21,000	1,000
	U.S.G.S.	1	1,000	1	1	1
Alaska	U.S.F.S.	1	500	1	1,000	1
	U.S.G.S.	2	500	1	1	1
	Other Public	2	1,500	1,000	1	1
	Private	1	1,000	1	5,000	1
	U.S.G.S.	1	1	1	1	1
Ohio	U.S.F.S.	1	1	100	100	1
	Other Public	2	2	2	37	1
	Private	200	201	100	1,000	1
	U.S.G.S.	1	1	1	1	1
Wisconsin	U.S.F.S.	40	1,000	100	2,000	1
	U.S.G.S.	1	1,000	1	1,000	1
	Other Public	1	1,000	500	1	1,000
	Private	40	1,000	1	1,000	1
	U.S.G.S.	1	1	1	1	1
U.S.G.S. Total		1	1	1	1	1

Agency	Ownership Class	No. Areas	Number of Tracts		
			Active	Pct. Active	Total
U.S.F.S.	U.S.F.S.	38	2,668	80	3,340
	Other Public	57	6,191	1,095	7,286
	Private	963	18,118	1,881	20,000
	Sub-total	1,058	26,977		
F.S./B.L.M.	U.S.F.S.	1	1	100	1
F.S./B.I.A.	U.S.F.S.	17	215	1,265	253
	Other Public	1		100	1
	Private	1		100	1
	Sub-total	19			
F.S./F.W.S.	U.S.F.S.	36	48	133	48
	Private	1	30		30
F.S./B.L.M./B.I.A.	Other Public	1		100	1
F.S./B.I.A.	U.S.F.S.	1		100	1
	Other Public	10	10	100	10
	Private	1	1	100	1
	Sub-total	12			
F.S./B.L.M.	U.S.F.S.	1		100	1
B.L.M.	U.S.F.S.	10	1,305	1,305	1,305
	Private	10	10	100	10
	Sub-total	1	1,315	1,315	1,315
All Agencies	U.S.F.S.	103	2,970	2,883	10,983
	U.S.I.S.	9	792	88	799
	Other Public	101	9,636	2,971	16,097
	Private	1,089	19,870	1,825	21,900
Region Total		1,322	33,268	2,516	49,779

Airport	Ownership Class	No. Aprons	Pavement Concrete	Pavement Bit. Surf.	Pavement Other	Pavement Total	Tie-Downs	Hangars	Shade	Fuel Facilities	Lighting	Beacon	Segmented Circle	Wind Cone	Lighted Wind Cee	Rotating Beacon	Airport Sign	Runway Lights	Taxiway Lights	Runway Edge Lights	Runway Centerline Lights	Runway End Identifier Lights	Visual Approach Slope Indicator	Runway Touchdown Zone Lights	Runway Medium Intensity Lights	Runway High Intensity Lights	Runway Threshold Lights	Runway Lights Control	Taxiway Edge Lights	Taxiway Centerline Lights	Taxiway Blue Edge Lights	Taxiway Lights Control	Obstruction Lights	Other Lighting	Total Lighting	Segmented Circle	Wind Cone	Lighted Wind Cee	Rotating Beacon	Airport Sign	Runway Lights	Taxiway Lights	Runway Edge Lights	Runway Centerline Lights	Runway End Identifier Lights	Visual Approach Slope Indicator	Runway Touchdown Zone Lights	Runway Medium Intensity Lights	Runway High Intensity Lights	Runway Threshold Lights	Runway Lights Control	Taxiway Edge Lights	Taxiway Centerline Lights	Taxiway Blue Edge Lights	Taxiway Lights Control	Obstruction Lights	Other Lighting	Total Lighting
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 30. Summary of Local Control, [illegible]

Agency	Ownership Class	No. Areas	Acres W. P. Provided Public & Pri. Sites		Total
W. P. S.	U.S.F.S.	20	1,900	1,370	3,270
	Other Public	204	11,980	1,980	13,960
	Private	1,850	30,240	3,370	33,610
	Sub-total				
[illegible]	U.S.F.S.	1	2		2
[illegible]	U.S.F.S.	1	210	1,260	1,470
	Other Public	0	0	0	0
	Private	10	-	120	120
	Sub-total				
[illegible]	U.S.F.S.	70	1,100	1,800	2,900
	Private	1	10		10
	Sub-total				
[illegible]	U.S.F.S.				
	Other Public				
[illegible]	Other Public	60	1,280	2,000	3,280
	Private	40	2,160	20	2,180
	Sub-total				
State and Private	Other Public	10	200	100	300
	Private	20	20	0	20
	Sub-total				
[illegible]	U.S.F.S.	1			
Agency	U.S.F.S.	10		1,000	1,000
	Private	10	10	74	84
	Sub-total				
All Agencies	U.S.F.S.	106	3,196	7,771	15,001
	U.S.F.S.	19	8,571	53	8,624
	Other Public	367	14,495	3,959	18,454
	Private	3,106	36,137	5,251	41,388
	Sub-total				
Grand Total					

Table 31. Summary of Ownership, Area Control Review, 1970.

Land Parties	Owner Ownership Land	Water	Total	Cabins	Water Value	Other	Total
10,100	1,124	136	1,260	$ 50,500	$210.00	$851.00	$ 51,561.00
11,100	7,400	300	7,700	55,500.00	45,000.00	4,500.00	105,000.00
21,200	10,700	1,276	11,976	106,000.00	1,200.00	5,351.00	112,551.00
[illegible]							
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 4. Results of Checking after Ribes Eradication, North Central Region, 1940.

State	Checking After Eradication							Classification of Worked Areas on Basis of Ribes P.L.S. per Acre Remaining after Eradication			
	No. Areas Worked	Acres Worked	Strip Acres	Ribes Found		Ribes per Acre		0.0-15.0 Acres	15.1-25.0 Acres	25.1-50.0 Acres	Over 50 Acres
				Bushes	P.L.S.	Bushes	P.L.S.				
Illinois	16	2,118	34.68	458	999	13.2	28.8	578	1,053	84	403
Indiana	20	5,008	33.96	236	1,516	6.9	44.6	3,275	1,264	83	386
Michigan	324	96,793	1,879.10	5,894	6,956	3.1	3.7	85,914	10,458	370	97
Minnesota	196	36,107	743.40	2,056	4,709	2.8	6.4	33,891	1,636	458	722
Ohio	134	17,936	366.00	393	1,360	1.1	3.7	17,205	588	0	143
Wisconsin	218	86,533	1,179.00	5,666	7,885	4.8	6.2	78,274	7,729	530	0
Entire Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 5. Post Checking in 1940 of Areas Previously Worked, North Central Region.

State	Total Examined: No. Areas	Total Examined: Acres White Pine	Total Examined: Acres Control Area	Eliminated: Acres White Pine	Eliminated: Acres Control Area	Rework Necessary: Acres White Pine	Rework Necessary: Acres Control Area	On Maintenance: Acres White Pine	On Maintenance: Acres Control Area	Costs: 8-Hour Man-days	Costs: Amount
Indiana	399	5,127	65,765	-	-	5,403	36,652	2,021	29,113	a	a
Michigan	246	37,973	104,941	7,008	23,320	27,112	71,320	3,053	10,301	311	$2,251.00
Minnesota	12	5,042	10,978	-	111	3,038	7,782	2,004	3,085	73	511.00
Ohio	983	7,238	142,881	13	365	4,647	86,440	2,577	56,076	a	a
Wisconsin	12	3,743	8,090	90	887	3,653	7,203	-	-	37	174.75
Region Total	1,652	59,123	332,655	7,111	24,683	43,853	209,397	9,655	98,575	421	$2,936.75

a - All work performed by W.P.A. clerks in Wooster, Ohio office, by examination of office records.

Table 2 Status of Control of Stream [illegible] Problem Areas, as [illegible], 1965.

State	Total Control Problem Areas					[illegible]	[illegible]	Under Way		Needed	
	Below Dike	Placed W. P. & W.P.F.s	Total	Control Area	Below Dike	[illegible]	Control Area	Dikes	Area	Dikes	Area
Illinois	930	3,051	3,981	21,696	241	36	13,618	68	3,076	32	944
Indiana	357	5,699	6,056	37,030	257	1,167	28,775	593	22,365	6,005	20,113
Iowa	1,280	3,811	5,091	419,096	581	1,205	362,000	1,175	277,219	746	99,754
Missouri	576,947	85,193	662,140	1,389,184	580,747	1,140	1,100,148	19,149	331,961	79,349	312,211
Minnesota	235,980	28,457	264,437	654,797	136,880	1,145	378,740	116,168	227,751	13,728	65,501
Ohio	4,980	10,938	15,918	398,019	4,813	11,138	148,018	2,778	134,103	2,518	50,976
Wisconsin	138,718	31,221	169,939	1,466,106	80,401	1,144	778,148	111,117	463,210	15,178	87,779
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 7 Status of Control of Forest Insects [illegible] Lands, North Central States, December 31, 1970

Ownership Class	Total Control Project Area: White Pine	Total Control Project Area: Control	Regular Aid Only: White Pine	Regular Aid Only: Control	Acres Where Control Was Initiated: White Pine	Acres Where Control Was Initiated: Control	Acres Where Control Was Initiated: Cooperative Aid: White Pine	Acres Where Control Was Initiated: Cooperative Aid: Control	Acres Where Control Was Initiated: Total: White Pine	Acres Where Control Was Initiated: Total: Control	Acres Of Maintenance: White Pine	Acres Of Maintenance: Control
Other Public	2,058	10,000	150	73	1,315		204	320	350	320	1,923	2,400	50	50
Private	632	11,035	980	2,347	62			20	0	140	109	1,079	3	30
Sub-total	2,690	21,035	150	2,420	1,377			340	350	460	2,032	3,479	53	80
Other Public	1,976	16,055	193	1,085	730		30	7,600	-	-	1,304	10,760	4,72	[illegible]
Private	4,080	72,675	906	2,742	-		-	1,360	10	90	2,000	71,035	1,500	5,70
Sub-total	6,056	88,730	1,099	3,827										
U.S.F.S.	10	900	-				10	900	-		10	900	-	
Other Public	640	3,340	35	300	92		45	610	0	-	150	2,980	1	5
Private	3,604	110,390	-	-	1,720		15	1,000	240	60,805	1,758	170,515	107	8,70
Sub-total	4,254	114,630												
U.S.F.S.	58,889	118,995	10,210	36,032	6,845		1,700	77,515	-	-	5,600	237,710	10,700	15,00
Other Public	174,306	518,171	10,575	15,538	51,757		101,900	97,152	-	-	150,113	107,150	[illegible]	[illegible]
Private	276,035	735,997	17,200	72,900	708,337		1,000	65,737	1,050	-	124,937	97,538	10,10	60,00
Sub-total	509,230	1,373,163												
U.S.F.S.	13,286	175,760	50	100	5,335		1,400	10,973	3,500	1,900	24,386	59,816	6,546	17,00
U.S.I.A.	81,023	49,147	-	-	-		-	38,103	-	-	10,000	35,607	700	1,20
Other Public	75,690	154,985	981	1,516	16,409		1,100	10,900	9,400	1,500	40,900	84,108	1,000	4,50
Private	6,836	833,790	250	1,000	2,775		200	517	7,887	17,000	10,362	370,000	1,100	5,000
Sub-total	176,835	1,213,682												
U.S.F.S.	199	1,798	-	-	199		-	-	-	-	100	1,798	100	1,70
Other Public	4,693	44,250	-	-	1,500		1,000	7,770	272	1,316	3,788	52,136	187	5,60
Private	10,966	999,991	-	-	5,774		400	4,145	900	1,000	7,285	210,000	1,954	10,77
Sub-total	15,858	1,046,039												
U.S.F.S.	85,165	65,500	60	100	5,580		1,500	19,044	240	1,877	2,120	19,118	1,370	1,30
U.S.I.A.	37,995	37,556	1,481	2,736	-		1,000	16,105	-	-	60,000	16,305	110	11
Other Public	70,700	157,330	1,650	4,535	16,979		1,027	106,940	-	-	24,700	150,493	5,727	11,609
Private	239,364	1,023,208	5,655	3,207	105,187		100	125,621	402	2,350	242,273	613,057	5,670	18,000
Sub-total	433,224	1,283,594												
U.S.F.S.	162,677	360,948	10,300	36,132	11,760		4,600	159,156	3,350	3,900	26,079	342,150	18,177	15,200
U.S.I.A.	47,867	39,013	1,481	2,736	-		1,000	54,208	-	-	40,748	77,691	110	2,30
Other Public	325,335	980,660	2,388	23,691	74,645		1,027	591,971	4,677	14,316	237,202	705,382	38,365	120,65
Private	577,540	3,042,730	19,213	78,751	876,590		1,100	235,112	10,339	183,176	370,901	1,366,510	26,154	83,70
Grand Total	1,112,419	5,423,351	33,382	141,310	962,995		8,727	1,040,447	18,366	201,392	674,930	2,491,733	82,806	222,85

Table 8. Summary of Initial Weed Control by States, From Inception to December 31, 1940, North Central Region.

State	Period of Time	Acres W.P. and W. F. F. S. Protected	Gross Acres Worked	Number Ribes Pulled	8-Hour Man-days Labor & Supervision	Total Cost	Average per Acre Worked: Man-days	Average per Acre Worked: Cost	Average per Acre Worked: Ribes	Av. Miles Pulled per Man day
Illinois	1932-1939	2,857	11,133	1,452,513	4,084	$11,785.44	0.36	1.06	130	340
	1940	69	2,485	74,795	665	856.91	0.11	0.34	30	273
	Total	2,926	13,618	1,527,308	4,749	12,642.35	0.34	1.03	112	330
Indiana	1933-1939	3,092	56,112	255,893	2,686	7,811.17	0.05	0.14	5	95
	1940	335	9,653	97,700	778	2,302.75	0.08	0.25	10	126
	Total	3,427	65,765	353,593	3,464	10,113.92	0.05	0.15	5	102
Iowa	1933-1939	2,921	317,877	2,684,305	20,516	54,572.59	0.06	0.17	9	139
	1940	191	29,285	168,011	1,169	* 5,648.56	0.05	0.19	6	113
	Total	3,112	347,162	2,852,316	21,685	* 60,221.15	0.06	0.17	8	135
Michigan	1932-1939	359,630	1,039,318	59,869,072	247,341	651,991.04	0.24	0.63	57	200
	1940	19,500	70,279	2,804,741	14,385	44,335.80	0.20	0.63	40	195
	Total	379,130	1,109,597	62,673,813	261,726	696,326.84	0.24	0.63	56	199
Minnesota	1917-1939	172,695	382,082	51,712,315	127,502	321,091.08	0.35	1.18	142	404
	1940	8,264	21,621	4,344,256	11,716	35,440.42	0.54	1.65	201	374
	Total	180,959	403,703	56,056,571	139,218	356,531.50	0.34	1.11	140	403
Ohio	1933-1939	9,909	137,470	2,219,777	21,994	53,951.53	0.20	0.58	15	81
	1940	1,354	27,732	284,554	2,223	7,634.32	0.08	0.27	10	128
	Total	11,263	165,202	2,504,331	24,217	61,585.85	0.15	0.37	15	85
Wisconsin	1919-1939	243,055	653,001	72,151,952	312,531	900,096.31	0.37	1.35	88	231
	1940	16,091	60,728	5,340,089	16,603	51,726.22	0.27	0.95	88	322
	Total	259,146	713,729	77,492,041	329,134	951,822.53	0.46	1.33	109	235
Region	1917-1939	765,345	2,777,375	192,845,435	742,624	2,179,001.76	0.27	0.78	69	260
	1940	45,812	221,726	13,121,196	47,491	* 148,044.90	0.21	0.67	59	276
	Grand Total	811,157	2,999,101	205,966,631	790,115	* 2,327,046.66	0.26	0.78	69	261

* Includes $ 509.50 25 value of 2038 Cult. Ribes destroyed.

Table 8a. Summary of Re-eradication by States from Inception to December 31, 1940, North Central Region.

State	Period of Time	Acres S.P. and W. P. P. S. Protected	Gross Acres Worked	Number Ribes Pulled	Man-days Labor & Supervision	Total Cost	Average per Acre Period Man-days	Average per Acre Period Cost	Average per Acre Period Ribes	Average Ribes per Man-day
Illinois	1936-1939	-	3,805	[illegible]	1,085	$5,360.78	0.28	1.41	114	[illegible]
	1940	-	2,127	124,583	573	2,085.90	0.24	0.86	76	[illegible]
	Total	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indiana	1936-1939	180	2,439	23,053	275	3,088.76	0.19	0.83	5	
	1940	1,077	6,378	39,699	144	1,321.01	0.07	0.21	6	
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Iowa	1936-1939	294	5,816	104,154	775	3,141.63	0.13	0.54	18	135
	1940	64	3,510	27,586	273	* 1,315.25	0.07	0.24	8	76
	Total	[illegible]	[illegible]	[illegible]	[illegible]	*	[illegible]	[illegible]	[illegible]	[illegible]
Kansas	1936-1939	31,221	36,599	3,745,869	21,795	68,140.50	0.22	0.63	39	172
	1940	14,892	41,302	991,008	6,230	16,673.95	0.15	0.45	24	160
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Minnesota	1933-1939	27,123	52,143	1,040,855	17,586	51,183.20	0.33	0.99	77	233
	1940	4,937	14,591	867,179	1,074	10 110.42	0.22	0.70	60	273
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ohio	1936-1939	2,933	26,022	183,532	1,901	28,375.63	0.34	1.09	19	97
	1940	134	2 145	79,156	121	1 139.77	0.20	0.67	18	91
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Wisconsin	1934-1939	27,945	84,856	2,992,820	20,822	58,205.44	0.24	0.69	35	144
	1940	11,395	15,189	1,316,630	9,262	26.954.42	0.20	0.59	29	142
	Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Region	1932-1939	95,951	271,673	11,786,693	72,175	209,089.11	0.27	0.77	43	163
	1940	35,199	117,781	3,479,755	21,397	* 61,907.75	0.19	0.53	29	168
	Total	[illegible]	[illegible]	[illegible]	[illegible]	*	[illegible]	[illegible]	[illegible]	[illegible]

* Includes $ 55.00 as value of 220 Cult. Ribes destroyed.

Table 8b. Summary of Local Control, Initial and Re-eradication, by States, from Inception to December 31, 1940, North Central Region.

State	Period of Time	Acres W.P. and W. P. P. S. Protected	Gross Acres Worked	Number Ribes Pulled	8-Hour Man-days Labor & Supervision	Total Cost	Average per Acre Worked: Man-days	Cost	Ribes	Acre Cost Pulling per Acre
Illinois	1932-1939	2,857	14,934	1,887,327	5,249	$17,247.22	0.39	1.15	126	$3
	1940	69	4,912	299,578	858	2,912.71	0.17	0.60	55	3
	Total	2,926	19,846	2,186,905	6,107	20,159.93	0.31	1.01	110	3
Indiana	1933-1939	5,352	58,550	278,948	3,161	9,833.93	0.05	0.17	5	1
	1940	1,112	16,031	157,439	1,222	3,710.79	0.08	0.23	9	1
	Total	6,464	74,581	436,387	4,383	13,544.72	0.06	0.18	6	1
Iowa	1933-1939	2,615	23,487	2,993,401	21,616	88,001.12	0.91	0.27	9	3
	1940	858	31,735	195,537	1,952	* 6,963.83	0.05	0.20	6	1
	Total	3,473	55,222	3,188,938	23,568	* 94,964.95	0.42	0.47	15	4
Michigan	1933-1939	396,850	1,135,317	63,214,364	289,997	712,092.14	0.24	0.63	56	21
	1940	34,400	111,879	3,798,743	20,615	63,009.75	0.18	0.56	34	14
	Total	431,250	1,247,196	67,013,107	310,612	775,101.89	0.25	0.62	54	19
Minnesota	1917-1939	169,825	914,205	55,013,176	144,838	430,356.28	0.15	1.21	134	5
	1940	13,201	36,198	5,211,167	15,082	45,770.84	0.14	1.26	144	5
	Total	183,026	950,403	60,224,343	159,920	476,127.12	0.15	1.21	135	5
Ohio	1933-1939	12,924	163,832	2,705,305	26,335	122,927.16	0.32	0.75	16	7
	1940	1,168	29,877	323,770	2,644	8,874.09	0.09	0.30	11	3
	Total	14,092	193,709	3,029,075	28,979	131,801.25	0.15	0.68	16	7
Wisconsin	1919-1939	270,935	937,357	75,143,972	233,353	958,340.75	0.25	1.02	83	25
	1940	30,166	106,217	6,666,459	25,885	71,680.64	0.24	0.74	63	24
	Total	301,101	1,043,574	81,810,431	259,238	1,030,021.39	0.24	0.99	81	25
Region	1917-1939	861,826	3,049,046	204,830,126	911,799	2,388,050.30	0.27	0.78	51	20
	1940	81,311	355,509	16,592,751	69,088	* 209,952.65	0.20	0.62	48	16
	Total	943,137	3,404,555	221,422,877	980,887	* 2,598,002.95	0.29	0.77	50	19

* Includes $ 564.50 as value of 2258 Cult. Ribes destroyed.

TABLE 38. Summary of Correctional Personnel in National Prison Units, Field Service Agencies, and Training Academies by Gender, U.S. 1987

Agency Type	Unit Type	Function	Gender	Total Number Full-Time Employees	Total Number Part-Time Employees	Total Number Volunteers	Total Number of Hours Worked by Part-Time Employees	Total Number of Hours Worked by Volunteers	Total Number of Hours Worked by Part-Time Employees and Volunteers	Total Number of Hours Worked by Full-Time Employees, Part-Time Employees, and Volunteers
Federal	Jail	Security	Male	1	0	0	0	0	0	1
		Security Supervisor	Male	0	0	0	0	0	0	0
			Female	0	0	0	0	0	0	0
	Prison	Security	Male	0	0	0	0	0	0	0
			Female	0	0	0	0	0	0	0
		Security Supervisor	Male	0	0	0	0	0	0	0
			Female	0	0	0	0	0	0	0
	Jail/Prison Combined	Security	Male	0	0	0	0	0	0	0
			Female	0	0	0	0	0	0	0
		Security Supervisor	Male	0	0	0	0	0	0	0
			Female	0	0	0	0	0	0	0
		Other	Male	0	0	0	0	0	0	0
			Female	0	0	0	0	0	0	0
Total										
Total Male										
Total Female										
Total Unknown										
Total Security										
Total Security Supervisor										
Total Other										

Table 10. Cultivated Black Current Elimination, North Central Region, 1940.

State	Number Counties Where Work was Done	Total Number Inspections	Found: Locations	Found: Bushes	Destroyed: Locations	Destroyed: Bushes	Number 8-Hour Man-days	Total Cost	Average Number Bushes per Location	Average Number Locations per 1000 Inspections	Number Locations Found Only on Bushes
					Initial Eradication						
Iowa	4	7,503	15	125	17	138	61	$572.00	8.3	2.0	0.12
Michigan	25	53,458	322	2,113	351	2,236	1,914	8,057.09	6.6	6.0	0.16
Minnesota	2	1,608	56	298	56	298	354	1,279.50	5.3	12.2	0.17
Ohio	7	295,174	335	2,095	352	2,404	2,763	13,449.96	6.2	1.1	0.12
Wisconsin	2	3,541	26	115	70	273	176	807.58	4.4	7.1	0.15
Total	40	361,284	754	4,746	846	5,349	5,301	24,166.13	6.3	2.3	0.11
					Re-Check Eradication						
Iowa	7	4,654	14	51	15	50	56	414.07	3.6	3.0	0.22
Michigan	12	5,517	102	1,002	99	986	210	811.52	9.8	18.5	0.36
Minnesota	4	27,148	74	240	30	133	509	2,037.62	3.2	2.7	0.11
Ohio	25	19,877	20	128	5	14	889	4,207.17	6.4	1.0	0.30
Wisconsin	14	54,836	65	163	56	163	1,286	5,214.30	2.5	1.2	0.53
Total	56	111,032	275	1,584	215	1,346	2,950	12,684.68	5.7	1.9	0.27

Table 10a. Analysis of Cultivated Black Currant Recheck, North Central Region, 1940.

State	Initial Survey Found		Found on Rechack, 1940 Missed Orig.		Seedlings		Sprouts		Planted Lines Original Survey		Total on Rechack		Percent Total Found Originally	
	Locations	Bushes	Locations	Bushes	Locations	Bushes	Locations	Bushes	Locations	Bushes	Locations	Bushes	Locations	Bushes
Idaho	77	332	14	57	-	-	-	-	-	-	14	51	81	90
Minnesota	2,371	17,946	87	54	6	33	38	143	3	10	74	240	97	99
Wisconsin	786	3,723	55	138	-	-	6	6	7	37	68	175	95	97
Total	3,234	22,001	156	249	6	33	44	149	10	47	156	466	97	98

Table 11. Cumulative Cultivated Black Currant Elimination, North Central Region, to December 31, 1940.

State	Found		Eradicated	
	Locations	Bushes	Locations	Bushes
Illinois	532	4,171	60	564
Indiana	313	2,193	-	-
Iowa	1,469	6,745	1,314	6,062
Michigan	14,393	141,184	14,332	140,854
Minnesota	3,174	22,789	3,129	22,681
Ohio	8,837	75,360	8,293	72,726
Wisconsin	6,540	36,870	6,540	36,878
Total	[illegible]	[illegible]	[illegible]	[illegible]

Table 12. Expenditures for All Blister Rust Control Work
Milwaukee Office, 1940.

Agency and Fund	Expenditure Classification	A Supervision	B Field Data	Total
Regular Funds	Salaries	$8,213.92	$2,287.44	$10,501.36
	Expenses	127.04	126.39	253.43
	Sub-total	8,340.96	2,413.83	10,754.79
Forest Service Regular Funds	Salaries	1,596.10	-	1,596.10
	Expenses	-	-	-
	Sub-total	1,596.10	-	1,596.10
W.P.A. Emer. Funds	Salaries	6,701.75	-	6,701.75
	Expenses	1,122.55	259.90	1,382.45
	Sub-total	7,824.30	259.90	8,084.20
W.P.A. Project Funds	Salaries	3,490.82	324.99	3,815.81
	Expenses	1,157.67	269.14	1,426.81
	Sub-total	4,648.49	594.13	5,242.62
C.C.C.	Salaries	11.50	-	11.50
	Expenses	-	-	-
	Sub-total	11.50	-	11.50
All Agencies	Salaries	20,013.07	2,612.43	22,625.50
	Expenses	2,707.26	655.43	3,362.69
Grand Total		$22,720.33	$3,267.86	$25,988.19

Table 1.1: [illegible]

| Appointment | Period | Salaries | | |

Table 12d. Total North Central Region Expenditures Classified into Wages and Other Than Wages. 1950.

State	Wages	Other Than Wages	Total	Percent for Wages of Total
Illinois	$5,149.72	$1,145.94	$6,295.66	81.8
Indiana	4,419.90	646.41	5,066.31	87.2
Iowa	11,793.34	2,366.97	14,160.31	83.3
Michigan	93,146.92	4,571.74	103,718.15	86.7
Minnesota	72,489.93	12,371.51	84,861.44	85.4
Ohio	35,402.68	4,532.37	39,934.45	88.6
Wisconsin	104,958.75	13,312.91	117,571.66	88.7
Milwaukee	22,625.50	3,363.09	25,988.59	87.1
North Central Total	[illegible]	[illegible]	[illegible]	[illegible]

Table 12a. Labor, Commodity, Expenditure and Costs per Man-month, Emergency Tasks
Following an Earthquake from Worst Credible Region
Scenario Year 2020.

Item	20DAY Cost	70DAY Cost	20DAY-90DAY Man-Months	20DAY-90DAY Cost	20DAY-90DAY Cost per M.M.	Post-90DAY Man-Months	Post-90DAY Cost	Post-90DAY Cost per M.M.	Man-Months	Cost
					Illinois					
Salaries, Relief	-	-	70.0	$1,[illegible]	[illegible]	10.0	$1,[illegible]	[illegible]	[illegible]	[illegible]
Supplies	-	-	-	15.[illegible]	-	-	-	-	-	15.[illegible]
Travel-Misc.	-	-	-	108.[illegible]	-	-	[illegible]	-	-	[illegible]
Lease	-	-	-	77.70	-	-	20.[illegible]	-	-	[illegible]
[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	-	-	70.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
					Indiana					
Salaries, Agriculture	-	-	-	-	-	2.2	35.00	192.27	2.2	335.00
Salaries, Relief	-	-	20.0	1,[illegible]	56.47	11.5	360.00	56.[illegible]	49.5	2,[illegible]
[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Supplies	-	-	-	-	-	-	1.[illegible]	-	-	1.[illegible]
Travel-Misc.	-	-	-	30.[illegible]	-	-	11.00	-	-	79.[illegible]
Lease	-	-	-	90.[illegible]	-	-	[illegible]	-	-	[illegible]
[illegible]	-	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
					Ohio					
Salaries, Agriculture	-	-	0.5	[illegible]	[illegible]	-	-	-	2.3	[illegible]
Salaries, Non-relief	-	-	7.0	[illegible]	[illegible]	3.7	67.[illegible]	75.[illegible]	6.3	[illegible]
Salaries, Relief	-	-	61.5	1,[illegible]	[illegible]	[illegible]	1,[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Supplies	-	-	-	15.[illegible]	-	-	[illegible]	-	-	[illegible]
Travel-Misc.	-	-	-	30.[illegible]	-	-	260.[illegible]	-	-	[illegible]
Lease	-	-	-	[illegible]	-	-	[illegible]	-	-	[illegible]
[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
					Illinois					
Salaries, Agriculture	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Salaries, Non-relief	-	-	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]

Table 13. Current and Cumulative Summary of Center Pruning, North Central Region to December 31, 1960.

State	Period of Time	Center Trees Pruned	Number Trees Treated	Number Trees Removed	Number Centers	8-Hour Man-days Used	Costs
Michigan	Cumulative	199,675	17,330	4	30,672	1,028	$3,696.36
	1960	831,700	5,107	-	15,961	453	1,670.40
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Minnesota	Cumulative	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ohio	Cumulative	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 11. Current and Cumulative Summary of Control Zone Boundary Marking, North Central Region, to December 31, 1964.

State	Period of Time	Number Areas Marked	Acres in Areas Marked	Miles of Boundary Marked	Man-days Used	Costs				Average Cost per Mile
						Labor	Super-vision	Other	Total	
Michigan	Cumulative	995	195,998	1,788	2,083	5,782.05	1,495.57	451.28	7,675.20	4.29
Minnesota	1964	7	2,140	26	41	331.29			251.92	4.50
	Total	1,002	198,138	1,814	2,124	6,113.34	1,495.57	451.28	7,960.19	4.39
Region Total		1,850	388,138	4,188	5,283	16,394.34	4,095.57	722.28	21,212.19	5.06

Table 15. Approximate Number of Man-months Employment on Blister Rust Control Activities, Regional Office, Milwaukee, Wisconsin, 1940.

Program	Position	Approximate Number Men Employed												Approx. No. Man-Months
		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Regular Funds	Regional Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.0
	Asst. Regional Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.0
	Control Specialist	-	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	10.5
	Clerks (Appointed)	-	-	-	-	-	-	2.0	-	-	-	-	-	2.0
	Total Regular	2.0	2.5	3.0	3.0	3.0	3.0	5.0	2.0	2.0	3.0	3.0	3.0	
F.S.														
Regular	Inspector	1.0	1.0	1.0	1.0	1.0	0.5	0.2	0.1	0.4	-	0.7	0.8	7.6
F.S.A.	Control Specialist	1.0	0.5	-	-	-	-	-	-	-	-	-	-	1.5
401087	Clerks (Relief) Skilled	2.0	2.0	2.0	3.0	3.2	2.9	-	-	-	-	-	-	15.1
	Clerks (Relief) Intermediate	1.9	2.1	2.0	1.0	-	-	-	-	-	-	-	-	7.0
	Total Relief (401087)	3.9	4.1	4.0	4.0	3.2	2.9	-	-	-	-	-	-	
NPS (Ida.)														
301083	Clerks (Appointed)	1.0	1.0	1.0	1.0	1.0	1.0	-	-	-	-	-	-	6.0
W.P.A.	Clerks (Non-relief) Skilled	-	-	-	-	-	-	-	-	-	0.5	0.7	1.0	2.2
401087	Clerks (Relief) Skilled	-	-	-	-	-	-	2.7	4.2	2.4	1.8	2.7	2.8	16.6
	Total W.P.A. (401087)	-	-	-	-	-	-	2.7	4.2	2.4	2.3	3.4	3.8	
NPS (Ida)														
401006	Clerks (Appointed)	-	-	-	-	-	-	1.0	1.0	1.0	1.0	1.0	1.0	6.0
W.P.A.	Clerk	-	-	-	-	-	-	-	-	-	0.2	-	-	0.2
All Programs	Regional Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.0
	Asst. Regional Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.0
	Control Specialist	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12.0
	Inspector	1.0	1.0	1.0	0.9	1.0	0.5	0.2	0.1	0.4	-	0.7	0.8	7.6
	Clerks (Appointed)	4.0	4.0	4.0	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0	4.0	47.5
	Clerks (Relief)	5.9	6.1	6.0	5.0	3.2	2.9	2.7	4.2	2.4	2.3	3.4	3.8	47.1
	Total Total	13.9	14.1	14.0	12.9	11.2	9.9	10.9	12.3	10.8	10.3	12.1	12.6	

* Less than 0.5 (Ida.)

Table 17. Seasonally Employed on Illinois Farms (Unpaid Workers), All Persons, by Position, Month and Items, North Central Region, 1980

Position	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
					(Thousands)							
Farm Leader	-	-	1.0	1.0	1.0	1.0	1.0	0.5	0.5	0.5	-	
Supervisors	-	-	-	-	-	-	-	0.5	0.5	0.5	-	
Foremen	-	-	-	-	1.0	0.5	-	1.0	1.0	1.0	-	-
Laborers	-	-	-	-	1.0	0.5	0.5	1.0	1.0	1.0	-	-
Farm Total	-	-	1.0	1.0	3.0	2.0	1.5	3.0	3.0	3.0	-	-
					Indiana							
Farm Leader	-	-	-	-	0.5	0.5	1.0	0.5	0.5	-	-	-
Foremen	-	-	-	0.5	1.0	0.5	0.5	0.5	0.5	-	-	-
Laborers	-	-	-	-	0.5	0.5	0.5	0.5	0.5	-	-	-
Farm Total	-	-	-	0.5	2.0	1.5	2.0	1.5	1.5	-	-	-
					Iowa							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Supervisors	1.0	1.0	0.5	-	-	-	-	-	-	-	-	-
Foremen	1.0	1.0	1.0	1.0	0.5	1.0	0.5	0.5	0.5	0.5	0.5	0.5
Laborers	0.5	0.5	0.5	0.5	1.0	0.5	0.5	1.0	1.0	0.5	1.0	-
Casual (Non-Hired)	1.0	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	-	
Farm Total												
					Michigan							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Owner	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Supervisors	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Foremen	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Laborers	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Casual (Agricultural)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Casual (Domestic)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					Ohio							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Laborers	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					Wisconsin							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Owner	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Supervisors	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Foremen	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Laborers	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Casual (Agricultural)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Casual (Domestic)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					Minnesota							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Laborers	1.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					North Dakota							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Laborers	1.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					South Dakota							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Laborers	1.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					Nebraska							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Laborers	1.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												
					Kansas							
Farm Leader	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Livestock Laborers	1.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Farm Total												

Table 16. Approximate annual disposition (bed or habitat) of Federal R.V.I. Program, Santa Catalina Series, January 1 to December 31, 1966

Stratum	Class	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.
						Trilobata							
Relief	Skilled	-	-	-	-	0.8	7.0	-	0.5	0.3	0.3	-	-
	Intermediate	-	-	-	-	1.0	6.3	-	0.9	1.4	0.8	-	-
	Unskilled	-	-	-	-	-	20.3	-	4.3	7.1	3.9	-	-
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		-	-	-	-	100.0	100.0	-	100.0	100.0	100.0	-	-
						Undata							
Agriculture		-	-	-	-	-	-	3.0	0.6	0.9	-	-	-
Relief	Skilled	-	-	-	0.1	1.0	8.1	0.3	0.9	0.5	-	-	-
	Intermediate	-	-	-	-	1.0	1.0	1.0	1.3	0.1	-	-	-
	Unskilled	-	-	-	-	1.0	10.1	3.3	5.0	3.5	-	-	-
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		-	-	-	100.0	100.0	100.0	87.1	77.1	31.0	-	-	-
						Lodo							
Agriculture		1.0	1.0	0.5	-	-	-	-	-	-	-	-	-
Excavation	Skilled	-	-	-	1.0	1.0	1.0	1.0	0.7	1.0	1.0	-	-
Relief	Skilled	8.0	3.0	1.0	1.0	0.0	7.0	3.0	5.5	5.0	0.1	1.1	0.7
	Intermediate	3.0	1.0	0.7	1.0	4.0	0.0	0.0	-	1.0	1.1	0.7	-
	Unskilled	1.0	3.0	1.0	1.0	7.0	13.0	0.1	10.0	9.0	1.0	0.7	-
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		24.0	9.0	3.0	4.0	12.0	34.0	4.0	15.0	17.0	3.0	3.0	1.0
						Mocassin							
Agriculture		2.0	2.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Excavation	Skilled	1.0	1.0	1.0	0.0	0.1	-	-	-	-	-	-	-
Relief	Skilled	20.0	20.0	20.0	10.0	10.0	7.0	3.0	10.0	10.0	0.1	0.1	0.1
	Intermediate	3.0	1.0	1.0	1.0	-	1.0	0.0	0.0	1.0	-	1.0	1.0
	Unskilled	10.0	10.0	10.0	10.0	0.0	10.0	0.0	0.0	1.0	0.0	0.0	0.0
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		36.0	34.0	33.0	32.0	10.0	19.0	4.0	11.0	13.0	0.0	2.0	2.0
						Mocassin Silt							
Agriculture		4.0	0.0	-	-	-	-	-	-	-	-	-	-
Excavation	Skilled	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0
Relief	Skilled	8.0	3.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
	Intermediate	3.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-
Percent Relative		15.0	3.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
						Mocassin Silty							
Agriculture		3.0	3.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Excavation	Skilled	3.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Relief	Skilled	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Intermediate	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unskilled	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		36.0	36.0	36.0	36.0	21.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
						Mocassin							
Agriculture		2.0	2.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Excavation	Skilled	3.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Relief	Skilled	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Intermediate	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unskilled	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		36.0	36.0	36.0	36.0	21.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
						Mocassin							
Agriculture		2.0	2.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Excavation	Skilled	3.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Relief	Skilled	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Intermediate	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unskilled	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		36.0	36.0	36.0	36.0	21.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
						Mocassin							
Agriculture		2.0	2.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0
Excavation	Skilled	3.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Relief	Skilled	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Intermediate	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unskilled	10.0	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
	Non-Occ.	-	-	-	-	-	-	-	-	-	-	-	-
Percent Relative		36.0	36.0	36.0	36.0	21.0	10.0	10.0	0.0	0.0	0.0	0.0	0.0
Percent Unskilled Non-Occ.		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Total Strata		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 19. Compensation Cases Involving W.P.A. Workers Reported to the Milwaukee Office by States, and Type of Injury, 1940.

State	Loss of Life	Eye Injury	Ly. and Other Fiel Poisoning	Infection	Cuts, Sprains, Burns and Bruises	Dog Bites	Total	Number per 1000 Man-months
Illinois	—	—	—	1		—	1	20.8
Kentucky	—	—	—	—	1		1	16.3
Iowa	—	1	3	—	1	—	5	31.3
Michigan	—	1	5	1	1	1	9	7.9
Minnesota	1	1	5	—	3	—	8	10.2
Ohio	—	—	—	—	1	—	1	7.2
Wisconsin	1	2	2	—	4	—	9	7.3
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Table 20. Compensation Cases Involving U.P.A. Workers Reported to the Milwaukee Office by Months and Types of Injury, 1960.

Month	Insect Injury	Eye Injury	Try and Other Plant Poisonings	Infection	Cuts, Scratches, Thorns and Bruises	Dog Bites	Total	Number per 1000 Man-months
January	-	-	-	-	-	-	-	0.0
February	-	-	-	-	-	-	-	0.0
March	-	-	-	-	1	1	2	20.3
April	-	-	-	-	-	-	-	0.0
May	-	-	1	1	2	-	4	9.6
June	-	-	3	1	3	-	7	9.7
July	1	1	4	-	2	-	8	15.0
August	1	1	4	-	2	-	8	11.5
September	-	3	1	-	1	-	5	13.5
October	-	-	-	-	-	-	-	0.0
November	-	-	-	-	-	-	-	0.0
December	-	-	-	-	-	-	-	0.0
Total	2	5	13	2	11	1	34	7.1

TABLE 17
SHEET #2

CENSUS TRACTS IN

SUMMARY OF AREA STATISTICS

State	Average Persons	Total Persons Incorporated	Total Persons Unincorporated	Average Persons Incorporated	Average Persons Unincorporated	Number Incorporated	Number Unincorporated	Average Persons	Total Persons	Total Negro Persons	Total Foreign Born Persons	Total Persons Per Square Mile
Illinois	6,482	74,089	164	465	5,291	104,400	215	105	4,918	858,997	363	1,340
Indiana	4,853	17,190		724	4,378	18,599	-	104	26,110	137,109	-	2,082
Iowa	29,305	145,973	2,008	1,160	5,850	27,340	680	577	34,751	195,273	4,258	1,440
Michigan	11,271	5,774,177	7,197	10,535	11,500	548	1,043	5,220	111,077	5,784,374	3,910	29,615
Minnesota	21,664	4,342,128	100	12,708	10,836	67,187	112	4,024	53,150	5,211,287	218	15,822
Ohio	27,736	264,345	170	2,823	1,116	39,155	1	121	29,497	523,539	171	2,644
Wisconsin	60,728	5,766,789	1,710	16,045	18,139	1,313,260	161	9,248	106,217	6,464,857	1,402	45,435
Total	29,351	13,144,711	11,349	63,461	17,773	1,570,489	1,212	4,378	70,680	19,785,447	10,324	3,695

* Census 4-hour week-days = hours worked or day (another way)

** Percentage of total water pipe supplied average in State that was within Market (%)

CERTIFICATE NUMBER 41

TABLE #1
SHEET #2

SUMMARY OF 2,4-D BRUSH ERADICATION

State	Fines per Acre Initial Spray	Fines per Acre Repeat Spray	Man-days per Acre Initial Spray	Man-days per Acre Repeat Spray	Number of Days — CCC	WPA	Res.	Total	Number of Employees* Laborers CCC	WPA	Res.	Total	All Supervisors	Employees
Illinois	30.1	76.1	0.11	0.24	2	-	-	2	6	55	-	61	1	62
Indiana	30.1	6.2	0.06	0.07	7	-	-	7	30	49	-	79	1	80
Iowa	5.7	5.0	0.05	0.07	-	-	-	-	-	21	-	21	2	23
Michigan	49.9	24.1	0.30	0.15	24	-	-	24	300	350	-	650	25	675
Minnesota	200.0	59.7	0.54	0.28	15	1	-	16	319	311	-	633	33	666
Ohio	10.3	13.9	0.06	0.20	11	-	-	11	35	50	-	36	3	39
Wisconsin	88.3	49.0	0.27	0.20	16	-	-	16	199	241	10	350	28	378
Total	[illegible]	[illegible]	[illegible]	[illegible]	75	1	-	76	819	1,126	10	1,971	93	2,064

* Enter the maximum number of persons on the pay roll at the peak of the season. Total number persons employed is not desired because the large turnover in C.C.C. camps would result in an exaggerated figure.

Table 4c
Sheet #1

CREDIT TABLE #2

SUMMARY OF FARM FIRES EXTINGUISHED BY PROGRAMS
(Including all work - Initial and Reconstruction)

State	Total Acreage Worked (Initial and Re-construction)	Regular and Cooperative				W.P.A. and T.E.R.A.			
		Acreage Worked	No. Fires Destroyed Fall	No. Fires Destroyed Spring	Number C. Scar Man-days	Acreage Worked	No. Fires Destroyed Wild	No. Fires Destroyed Unit.	Number C-Corps Enrollees
Illinois	4,912	715	12,290	15	14	3,706	222,635	166	759
Indiana	16,031	950	-	-	-	8,917	105,530	-	300
Iowa	34,735	b	b	b	106	34,735	193,272	2,251	1,594
Michigan	141,592	5,905	6,607	1,566	12	71,606	2,777,043	6,869	13,736
Minnesota	55,155	-	-	-	-	26,854	3,991,377	212	10,000
Ohio	21,977	-	-	-	-	21,537	295,363	115	2,300
Wisconsin	116,217	1,243	29,462	155	338	83,957	5,090,108	1,650	17,000
Total	390,619	11,813	48,359	2,063	484	294,315	12,675,331	11,410	49,479

a - Fire charges for Ingress outside these areas.
b - Work done included under W.P.A.
    106 man-days of Regular Scar Work to date within U.P. of Mich.

OMETRICS TABLE #2

FORMART OF 1940 WORK ERADICATION BY PROGRAMS
(Including all work - initial and re-eradication)

TABLE #2
SHEET #2

State	E.C.W. and S.C.S. Acreage Worked	E.C.W. and S.C.S. No. Vines Destroyed Wild	E.C.W. and S.C.S. No. Vines Destroyed Cult.	E.C.W. and S.C.S. Number 8-Hour Man-days	Totals Acreage Worked	Totals No. Vines Destroyed Wild	Totals No. Vines Destroyed Cult.	Totals Number 8-Hour Man-days
Illinois	591	24,512	-	65	4,912	258,997	381	836
Indiana	5,168	31,905	-	123	16,051	137,489	-	1,223
Iowa	-	-	-	-	34,735	193,279	2,958	1,852
Michigan	34,068	806,945	45	6,997	111,579	3,789,933	8,810	20,615
Minnesota	9,304	1,219,396	-	5,133	36,158	5,211,273	218	15,622
Ohio	5,340	28,276	26	123	29,677	323,539	171	2,644
Wisconsin	19,517	1,195,086	-	8,537	106,217	6,664,657	1,802	25,985
Total	73,104	3,609,120	71	21,926	382,929	16,579,117	13,674	68,897

CENSUS TABLE #3

SUMMARY OF ALL OTHER CONTROL WORK FOR 1940

TABLE #3
SHEET #1

State	Cultivated Fiber Current Eradication: Number Inspections Made	Number Infestations Found	No. Block Currants Destroyed	Est. 8-Hour M-D.	No. Nurs. Stocks	Nursery Sanitation: No. White Pines in Nurseries	No. Acres Worked	No. Wild Currants Destroyed	Insider 8-Hour Man-days	Forest. Survey: No. Acres Mapped W.P. & P. Scale	Insider 8-Hour Man-days
Illinois	-	-	-	-	-	-	-	-	-	1,898	10
Indiana	1	1	0	0	-	-	-	-	-	13,215	17
Iowa	12,157	28	198	140	3	125,000	-	-	1	4,188	31
Michigan	59,972	184	3,282	2,163	5	8,135,700	1,210	20,072	0	281	88,153	167
Minnesota	31,756	130	431	643	8	6,334,350	3,656	147,158	1	619	85,727	345
Ohio	315,051	383	2,404	3,998	-	-	-	-	-	-	22,592	165
Wisconsin	26,277	91	136	1,182	4	1,972,000	1,008	36,253	19	129	77,798	140
Total	470,214	1,013	6,605	8,640	20	16,577,050	5,874	203,483	21	2,277	178,546	1,021

* (Inspection by State Leader - No actual eradication performed.

CONTROL TABLE #3

ATTEMPT OF ALL OTHER CONTROL WORK FOR 1960

TABLE #3
SHEET #2

State	Tractount Infested Trees: No. Trees Examined	No. Trees Treated	No. Trees Removed	No. Workers Employed	Number 5-Hour Man-Days	Airplane: Number 5-Hour Man-Days	Airplane: Average Ounces	Ground: Number 5-Hour Man-Days	Ground: Average Ounces	Regular: Number 5-Hour Man-Days
Illinois	-	-	-	-	-	-	-	-	2,115	10
Indiana	-	-	-	-	-	-	58,765	-	5,005	-
Iowa	-	-	-	-	-	-	-	-	0	0
Michigan	231,700	5,497	0	15,961	155	-	104,941	514	96,795	286
Minnesota	-	-	-	-	-	-	10,976	73	55,107	390
Ohio	-	-	-	-	-	-	142,031	a	17,936	b
Wisconsin	-	-	-	-	-	-	1,090	37	56,533	1894
Total	231,700	5,497	0	15,961	155	-	317,855	624	231,491	2580

a - All work done in Kenton, Ohio office, coded A.
b - Included in eradication costs.
c - No formal checking performed because of the small acreage (2-3 acres) of open work around each shelterbelt. With inspection by supervisor and where necessary, remark was done.
d - Included under other eradication but not included ESA

TABLE #1
EXHIBIT #1

CHECKED TABLE #1

SUMMARY OF EXPENDITURES FOR 1940

State	Total Federal (All Agencies Incl. "State WPA Projects")	Total State (Inc. all Coop. Funds)	Total Grand Total	Recapitulation of Federal Funds — Regular Funds: Soil Cons. & P.W.	Regular Funds: Forest Service	Regular Funds: Dept. of Interior	Emergency Funds: Federal WPA & N.Y.A.	Emergency Funds: State W.P.A.	Emergency Funds: R.E.A. & P.W.A.	Total Emergency Funds
Illinois	$3,151.07	$3,144.59	$6,295.66	$31.50	-	-	$2,990.57	-	$129.00	$3,119.57
Indiana	4,601.61	464.70	5,066.31	-	-	-	3,780.20	-	821.41	[illegible]
Iowa	11,845.81	2,314.50	14,160.31	6,712.05	-	-	5,133.76	-	-	5,133.76
Michigan	97,509.66	12,208.47	109,718.13	7,731.55	$315.41	-	72,032.07	-	16,830.63	88,862.70
Minnesota	78,409.38	6,451.81	84,861.19	7,754.30	123.09	-	48,854.31	$7,969.33	12,408.95	70,232.59
Ohio	36,132.20	3,802.25	39,934.45	2,881.64	-	-	9,098.54	23,275.23	876.79	33,250.56
Wisconsin	105,628.20	11,983.16	117,571.66	8,582.90	774.72	-	72,834.12	96.80	23,744.86	96,676.78
Total	337,278.93	40,369.58	377,608.11	59,693.94	2,113.43	-	210,723.57	31,337.36	54,121.64	305,176.20

* Including National Parks, Indian Reservations and C & C.

ORIGINAL TABLE #1

SUMMARY OF EXPENDITURES FOR 1940

Table #1.
Sheet #2

State	Supervising Individual State and District Leaders	Other Eradicative	Cultivated Stock Current Eradication	Nursery Sanitation	Center Eradication	Pre-eradication Survey	All Other (Quarantine, Field Data & Misc.)
Illinois	$3,227.13	$2,912.71	-	-	-	$125.32	-
Indiana	1,151.35	3,720.79	-	-	-	110.91	$93.36
Iowa	4,966.71	6,399.03	$1,550.57f	$43.85	-	1,196.62	-
Michigan	24,745.00	63,909.75	11,676.61b	2,006.85	$1,679.40	784.15	5,686.81
Minnesota	27,393.91	16,779.84	3,452.87e	1,936.64	-	2,667.30	1,610.09
Ohio	10,183.79	8,874.09	13,302.28d	-	-	1,432.18	893.81
Wisconsin	21,470.38	70,680.64	7,881.38c	425.21	-	2,119.89	7,585.65
Total	93,137.01	204,280.15	40,845.71	4,467.03	1,679.40	8,436.57	16,506.87

a - Includes $564.50 as value of cultivated vines destroyed
b - Includes $3,006.00 as value of cultivated vines destroyed.
c - Includes $185.75 as value of cultivated vines destroyed.
d - Includes $607.25 as value of cultivated vines destroyed.
e - Includes $964.50 as value of cultivated vines destroyed.

CENSUS TABLE #5

SUMMARY OF STATE CLASSIFICATION BY LAND OWNERSHIP 1960

State #5
Sheet #1

Land Ownership	Virtual Eradication: Average Number	Virtual Eradication: No. Sites Destroyed	Virtual Eradication: No. Sites Remaining	Re-eradication: Acres	Re-eradication: Sites	Re-eradication: Remaining	Totals: Acres	Totals: Sites	Totals: Remaining
National Forests	31,099	2,111,137	10,112	19,930	575,030	2,886	41,959	2,199,167	13,000
Indian Reservations	1,022	1,106,580	2,595	1,385	41,463	1,210	2,407	1,148,043	3,805
Bureau of Land Mgmt.	27,744	3,230,317	15,017	11,480	324,383	5,147	40,181	1,001,978	20,164
State and Private	189,045	3,991,991	34,161	103,997	2,693,272	16,935	293,742	12,984,793	50,096
Grand Total	271,710	11,440,025	61,881	137,191	3,670,598	24,178	408,901	17,333,981	87,059

CHECK LIST #5

SUMMARY OF INSECT DEPREDATIONS BY LAST OBSERVED - 1940

NATIONAL FORESTS

TABLE #5
SHEET #2

National Forests	Larval Work: Average Worked	Timber Killed Destroyed	Timber C-Class Man-days	Adult Work: Average Noted	Timber Killed Destroyed	Timber C-Class Man-days	Totals: Average Worked	Timber Killed Destroyed	Timber C-Class Man-days
Manistee, Mich.	5,045	44,987	195	-	-	-	5,045	44,987	195
Huron, Mich.	-	-	-	160	106	7	160	106	7
Marquette, Mich.	1,995	114,991	560	990	16,391	516	2,985	131,382	1,076
Minnesota, Minn.	4,739	98,597	1,115	1,050	86,504	295	5,789	185,101	1,410
Ottawa, Mich.	2,225	151,141	1,029	1,352	147	9	3,577	151,288	1,038
Superior, Minn.	3,892	089,911	2,729	3,305	109,906	909	7,197	199,817	3,638
Chippewa, Minn.	4,316	613,699	2,100	756	2,797	80	7,172	683,666	2,180
Nicol, Ohio	1,583	96	13	-	-	-	1,583	96	13
Chequesset, Mic.	2,795	288,957	1,138	1,311	65,005	706	4,099	353,962	1,844
Hoosier, Ill.	2,928	22,648	337	2,013	75,814	175	4,941	98,462	512
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OMITTED TABLE #2

ESTIMATE OF RIVER EVACUATION BY LAKE ONTARIO IN 1940

LAKE CONDITIONS

TABLE #5
SHEET #5

Indian Reservation	Initial Wave: Acreage Worked	Initial Wave: Number Kites Destroyed	Initial Wave: Number 1-Hour Man-Days	Re-evacuation Wave: Acreage Worked	Re-evacuation Wave: Number Kites Destroyed	Re-evacuation Wave: Number 1-Hour Man-Days	Totals: Acreage Worked	Totals: Number Kites Destroyed	Totals: Number 1-Hour Man-Days
Red Lake	393	104,256	404	17	7,196	82	420	111,452	486
Red Lake	238	135,098	172	1,358	196,080	1,097	1,594	331,979	1,269
Red Lakes	145	670,340	192	518	139,111	516	963	809,485	1,707
Woodland	916	308,785	1,027	1,346	10,377	402	1,262	319,162	1,429
Total	1,692	1,218,479	1,795	3,239	352,764	2,097	4,931	1,571,243	3,892

OMITTED TABLE #5

SUMMARY OF RIBES ERADICATION BY LAND OWNERSHIP 1940
(State and Private Lands)

TABLE #5
SHEET #1

State and Private Lands	Initial Work			Re-eradication Work			Totals		
	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-days	Acreage Worked	Number Ribes Destroyed	Number 8-Hour Man-days
Illinois	2,409	74,795	269	2,487	184,583	373	4,912	259,378	642
Indiana	9,653	87,780	775	6,378	42,669	645	16,031	137,439	1,421
Iowa	29,225	168,011	1,149	5,510	27,526	370	34,735	195,537	1,519
Michigan	56,678	2,393,025	10,996	37,618	350,144	5,577	94,296	2,743,169	16,573
Minnesota	10,895	2,797,184	6,074	9,100	494,050	1,926	19,995	3,291,234	8,000
Ohio	26,143	381,186	2,210	2,145	39,196	421	28,294	423,654	2,631
Wisconsin	53,950	1,085,948	12,612	40,519	48,154	6,920	94,479	1,134,102	19,532
Total	189,045	7,991,929	34,164	103,697	4,983,576	16,835	292,742	12,984,793	50,689

CONTENTS TABLE #1A

SUMMARY OF ALL STATE ERADICATIONS 1918-1940- (Inclusive)

TABLE #1A
SHEET #2

State a	Total Acreage White Pine b	Acreage Wh. Pine North Protected c	Acreage Control areas (Wh. Pine and Protective Zones) d	Acreage Reported Publicly Owned e	Net Acreage Worked in Control Areas f	Initial Stabilization Work: Number Sites Destroyed WHITE g	COLT. h	Remain to Done Acreage i
Illinois	3,297	3,288	21,664	13,438	13,638	1,586,779	584	4,269
Indiana	4,054	4,054	17,956	15,788	09,785	353,160	43	3,641
Iowa	5,000	3,936	619,674	547,102	362,165	3,012,395	39,719	88,338
Michigan	1,009,000	189,136	1,389,181	1,109,597	1,056,252	58,937,637	42,176	865,289
Minnesota	954,399	954,377	954,551	365,486	376,784	55,761,916	11,782	159,050
Ohio	15,358	15,158	309,019	169,401	164,916	2,149,193	1,439	29,411
Wisconsin	1,393,000	765,051	1,382,108	513,789	372,108	30,134,451	24,998	251,151
Total	3,475,108	1,935,000	4,693,243	3,043,896	2,952,536	204,960,401	121,143	701,149

CONTINUE TABLE #14

SUMMARY OF ALL RISKS ERADICATION 1918-1940 (Inclusive)

TABLE #14
SHEET #2

State	Re-eradication: Acreage Worked	Re-eradication: Number Ribes Destroyed: Wild	Re-eradication: Number Ribes Destroyed: Cult.	Re-eradication: Number Man-Days	Re-eradication: Net Acreage Types in Control Areas	Totals: Number Ribes Destroyed: Wild	Totals: Number Ribes Destroyed: Cult.	Totals: Number Man-Hour Inspection	Totals: Percent Initial Eradication	Per Acre: Ribes: Inf. Eradication	Per Acre: Ribes: Re-eradication	Per Acre: Man-Hours: Inf. Eradication	Per Acre: Man-Hours: Re-eradication
a	b	c	d	e	f	g	h	i	Workers				
Illinois	6,832	619,189	863	8,398	19,850	2,145,908	797	6,687	62.5	112.8	99.4	0.31	0.38
Indiana	8,816	42,692	30	839	74,491	413,016	51.6	1,283	74.5	5.4	7.1	0.05	0.14
Iowa	11,380	131,307	573	1,146	388,775	1,163,902	40,092	23,478	55.2	8.9	11.6	0.07	0.14
Michigan	237,699	4,734,734	5,457	27,983	1,194,691	66,906,371	47,313	290,218	76.0	56.1	344	0.24	0.32
Minnesota	66,677	4,857,558	187	31,660	443,181	80,649,100	15,899	100,910	97.6	148.8	73.0	0.37	0.38
Ohio	28,167	382,560	128	9,352	193,083	3,022,453	4,966	36,979	55.9	15.2	13.6	0.18	0.13
Wisconsin	130,345	4,310,521	329	30,104	1,008,937	84,785,104	25,387	189,230	64.0	68.1	33.1	0.34	0.25
Total	500,456	15,248,161	8,797	109,578	3,881,016	267,086,900	157,697	1,078,629	75.1	71.0	33.8	0.27	0.2

* Percentage of total white pine control area in State that has been worked initially.

CONTINUED TABLE #2A

TABLE #2A
SHEET #1

SUMMARY OF ALL FARMS EDUCATION BY PROGRAMS 1941-1940 (Initial and Re-evaluation)

State	Total* Acreage Reported Worked (Initial and Re-evaluation)	Regular and Cooperative				W.P.A. and F.S.A.				
		Acreage Worked	Number Trees Destroyed Pigs	Cull	Number F-Type Man-days	Acreage Worked	Number Trees Destroyed Pigs	Cull	Number F-Type Man-days	
Illinois	19,850	4,604	275,055	15	660	15,457	1,250,405	782		4,30
Indiana	74,981	15,695	958	3	4	59,354	289,347	163		2,41
Iowa	358,689	800	22,300	-	975a	868,050	4,538,796	88,878		31,70
Michigan	1,347,686	70,262	2,792,572	1,289	11,969	468,182	31,967,035	45,151		151,28
Minnesota	450,363	9,138	539,700	8	2,908	259,475	34,111,069	13,982		65,15
Ohio	193,768	390	3,129	-	56	143,909	2,220,150	4,537		20,00
Wisconsin	1,044,971	80,177	5,270,995	251	16,161	961,966	41,099,350	19,456		171,75
Total	3,536,134	110,734	4,903,836	2,687	32,775	1,164,142	120,997,150	113,722		451,41

* This column = column 3, Table 1A, Sheet 1, plus column 6, Table 1A, Sheet 2.
a - Includes 265 man-days of owners' labor, accomplishments of which are shown under W.P.A.

CENSUS TABLE #24

SUMMARY OF ALL WORK ERADICATION BY PROGRAMS 1933-1940 Inclusive
(Initial and Reeradication)

TABLE #2A
SHEET #2

State	E.C.W. and S.C.S. Acreage Worked	E.C.W. and S.C.S. Number Mites Destroyed WIT	E.C.W. and S.C.S. Number Mites Destroyed Gall	E.C.W. and S.C.S. Number Mites Destroyed 3-Horn Non-Days	T.V.A. or D.I.F. Average Worked	T.V.A. or D.I.F. Number Mites Destroyed WIT	T.V.A. or D.I.F. Number Mites Destroyed Gall	T.V.A. or D.I.F. Number Mites Destroyed 3-Horn Non-Days	Total Emergency Program (W.P.A.-E.C.W.-F.E.R.A.) Acreage Worked	Total Emergency Program (W.P.A.-E.C.W.-F.E.R.A.) Number Mites Destroyed WIT	Total Emergency Program (W.P.A.-E.C.W.-F.E.R.A.) Number Mites Destroyed Gall	Total Emergency Program (W.P.A.-E.C.W.-F.E.R.A.) Number Mites Destroyed 3-Horn Non-Days
Illinois	1,979	350,249	-	1,213	234	-	-	-	14,246	1,670,955	75	1,497
Indiana	15,832	109,974	72	1,671	2,723	4,683	-	23	50,196	115,444	335	1,370
Iowa	3,427	390,243	-	3,986	68,715	832,361	11,914	3,096	50,222	3,391,148	10,096	25,[illegible]
Kentucky	461,000	25,965,646	385	127,113	4,042	303,128	-	307	1,177,291	64,273,799	45,374	87,[illegible]
Minnesota	131,595	20,610,243	33	64,178	42,335	7,041,301	1,254	10,141	143,225	30,070,080	13,251	157,[illegible]
Ohio	33,077	366,630	89	13,489	11,348	132,856	-	1,593	197,379	5,019,324	1,566	20,[illegible]
Wisconsin	287,197	27,362,185	3,380	169,909	1,038	1,351,[illegible]	-	1,045	361,377	73,510,152	23,084	133,[illegible]
Total	1,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OMNIBUS TABLE #34

CENSUS OF ALL OPEN COUNTRY ROADS, 1918-1940 (Inclusive)

TABLE #34
SHEET #3

State	Unlicensed Motor Vehicles: Number Impounded	Number Lost or Stolen	Number Fleet Caravans Destroyed	Number Out-of-Door Days	No. of Counties: Exhibition Fair	No. of Counties: Exhibition Zoos	Nursery Eradication: No. Acres Worked: Nurseries Maintaining	Nurseries Acquired	Total Acreage	Number Miles Inspected	Miles Infected
Illinois	69,867	835	564	53	8		2,583	-	2,583	43,045	1,500
Indiana	67,001	711	-	150	1	2	5,100	1,350	5,750	11,864	31
Iowa	204,150	1,609	1,062	5,103	7	2	2,850	910	4,190	19,171	1,500
Kentucky	123,663	14,895	140,854	13,647	7	1	6,384	2,162	4,386	1,099,184	102
Minnesota	102,046	3,174	21,321	9,199	11	1	1,161	1,050	5,301	1,531,[illegible]	2,[illegible]
Ohio	1,[illegible]78	8,837	72,729	85,776	1	1	1,601	1,507	6,113	58,[illegible]	32
Wisconsin	205,779	6,560	1,[illegible]	51,560	9	1	3,477	2,825	4,096	171,05[illegible]	1,[illegible]
Total	1,[illegible]17	36,291	237,[illegible]2	169,[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SUMMARY OF ALL CITIES CONTROL WORK, 1916-1940 (Continued)

TABLE #3A
SHEET #2

State	Pre-eradication Survey: Number Trees Examined White Pine and Protection Zones	Number 1-Man Man-days	Treatment Infected White Pine: Number Trees Destroyed	Number Trees Treated	Number Trees Removed	Number Cankers Removed	Number Man-Hour Man-days
Illinois	16,215	162	-	-	-	-	-
Indiana	70,155	238	-	-	-	-	-
Iowa	377,682	4,543	-	-	-	-	-
Michigan	1,834,681	16,756	431,375	82,857	4	46,533	1,183
Minnesota	646,345	30,570	219,152	5,184	1,169	20,349	696
Ohio	184,472	3,367	500	13	7	16	-
Wisconsin	1,251,929	20,496	-	-	-	-	-
Total	4,401,852	76,132	(651,027)	93,054	1,166	67,098	1,879

OMNIBUS TABLE #1A

SUMMARY OF ALL EXPENDITURES, 1916-1940 (Inclusive)

TABLE #1A
SHEET #1

State	Federal (All Agencies Incl. State WPA Projects)	State (Incl. All Coop. Funds)	Grand Total State Coop.	Regular Federal and	Reconciliation by Programs Emergency Par. U.S.C.A., C.W.A., ERA, T.V.A.	State C.F.A.	F.C.W. S.C.S.	F.W.A.	Total Emergency Programs
Illinois	27,181.72	11,512.54	38,727.06	11,951.00	20,739.03	-	3,873.36	2,102.79	36,7[illegible]
Indiana	20,974.59	2,[illegible]	23,[illegible]	3,[illegible]	17,[illegible]	-	[illegible]	1,751.77	22,[illegible]
Iowa	168,122.13	21,796.50	189,918.62	37,989.67	115,401.42	-	15,108.18	12,077.01	1[illegible]
Michigan	1,185,612.04	163,978.34	1,349,[illegible]	275,977.00	727,510.41	-	68,198.89	67,796.09	2,073,[illegible]
Minnesota	977,901.57	97,641.71	1,075,543.28	229,303.65	383,428.78	17,491.19	203,161.27	72,856.75	[illegible]
Ohio	321,063.11	35,665.76	356,728.87	57,803.50	91,539.56	160,[illegible]	35,306.[illegible]	12,217.11	305,[illegible]
Wisconsin	1,[illegible]	1[illegible]	1,[illegible]	[illegible]	75[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

CENSUS TABLE #4A

SUMMARY OF ALL EXPENDITURES, 1915-1940 (Inclusive)

TABLE #4A
AUDIT #2

State	Recapitulation by activities (Federal and State)						
	Supervision (Incl. State & Dist. Leaders)	Flood Coordination	C.W.A. Projects	Survey Compilation	Control Elimination	Pre-Erection Survey	All Other (Recovery, Fire) (Work & Civil)
Illinois	15,961.97	20,059.97	-	792.12	-	825.50	1,991.46
Indiana	6,668.70	13,544.72	681.60	326.50	-	1,572.26	568.00
Iowa	39,973.62	94,103.75	16,076.38	3,310.97	-	12,565.12	241.62
Michigan	240,207.81	775,043.89	163,709.56	35,432.01	5,166.76	76,672.99	75,697.12
Minnesota	328,777.21	436,17[illegible].12	[illegible]7.20	15,214.77	3,770.96	41,561.63	150,716.47
Ohio	14,284.85	131,901.85	129,378.06	9,161.54	-	13,309.65	20,[illegible]9
Wisconsin	202,300.24	1,037,021.39	185,297.16	27,197.11	-	35,756.10	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SUMMARY OF WORK ACCOMPLISHED BY LAND OWNERSHIP 1914-1960 (Statistics)

TABLE #5A
SHEET #1

Land Ownership	Total Acreage of White Pine Worth Protecting	Control Areas		Clerical Prediction		
		Total Acreage* (NF & Prot-Zones)	Acreage Not Yet Worked Initially	Net Acreage Worked	Number Mines Destroyed	Per Cent Man-days
a	b	c	d	e	f	g
National Forests	161,877	380,082	137,914	242,131	19,113,987	05.63
Other Public Domain	116	1,197	-	1,197	20,205	1%.
Indian Reservations	47,867	90,015	12,359	77,656	27,031,280	42.39
Subtotal (Federal)	209,900	471,292	150,270	320,982	46,165,472	15.65
State and Private	906,213	3,470,401	1,399,191	2,071,210	161,802,157	63.41
Grand Total	1,116,103	4,441,693	1,549,461	2,892,192	205,967,629	720.11

* Column d + column e equals column c the total of column c of this table should agree with the total of column f of Table 1a.

OMITTED TABLE #5A

SUMMARY OF FIRES EXTINGUISHED BY LAND OWNERSHIP 1910-1960 (Inclusive)

TABLE #5A
SHEET #2

Land Ownership	Surveillance Man-days Lookout Man-days	Number Fires Discovered	Number Fires Man-days Worked	Fires (Initial & Reports) Number Fires Destroyed	Number Fires Man-days
National Forests	51,010	1,195,110	4,695	275,105	186,209,157
Other Public Lands	-	-	-	1,197	30,835
Indian Reservations	23,103	3,108,745	16.06	110,547	30,082,965
[illegible] (Private)	14,201	1,391,915	21.04	65,169	16,197,587
State and Private	325,248	10,661,395	42.91	2,494,189	149,408,190
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

UNKNOWN TABLE #5a

SUMMARY OF FIRE CLASSIFICATION ON NATIONAL FORESTS 1935-1940 (Tentative)

TABLE #5A
SHEET #3

National Forests	Total Acreage of White Pine	Control Areas Total Acreage (Wp.-protectable)	Acreage Not Yet Worked Initially	Initial Protection Work Average Worker	Number Fires Destroyed	Number Fi- Man-days
a	c	e	f	g	f	h
Manistee	11,709	54,417	-	56,547	191,697	1,114
Huron	1,119	4,836	-	4,836	64,475	505
Marquette	11,909	27,524	6,475	21,049	830,386	7,099
Hiawatha	7,359	21,000	2,000	17,215	591,691	4,340
Ottawa	24,921	30,966	9,159	21,077	3,754,736	13,949
Superior	60,305	115,161	34,931	30,833	4,457,240	16,859
Chippewa	53,885	58,255	23,972	29,533	3,049,616	13,283
Nayes	199	1,799	-	1,799	56	13
Onaqonagon	15,300	38,050	1,490	36,560	2,502,713	15,550
Nicolet	10,165	25,450	2,363	22,587	2,129,720	12,951
Total Fed. Forests	161,877	380,048	137,211	242,131	17,113,981	99,831

* Column d + column e = column c.

CROPPED PAGE #5A

SUMMARY OF STAND CLASSIFICATION ON NATIONAL FORESTS 1918-1960 (Continued)

TABLE #5A
SHEET #4

National Forests	Re-creation Work: Acreage Worked	Re-creation Work: Number Other Destroyed	Re-creation Work: Number M-Hour Man-days	Totals (Initial and Rework): Acreage Worked	Totals (Initial and Rework): Number Trees Destroyed	Totals (Initial and Rework): Number M-Hour Man-days
Nantahala	-	-	-	56,517	121,697	1,114
Huron	766	23,455	136	3,602	67,730	637
Marquette	1,170	26,070	716	22,219	956,456	7,775
Hiawatha	3,294	13,797	166	21,122	628,063	5,004
Ottawa	4,319	160,395	2,113	25,392	4,075,501	16,068
Superior	6,929	140,495	2,660	39,162	4,537,565	19,139
Chippewa	4,585	78,515	787	53,998	5,188,283	14,090
Wayne	-	-	-	1,795	56	13
Chequamegon	5,738	164,176	1,303	42,898	2,656,990	16,953
Hiawatha	2,213	79,237	321	24,690	2,206,257	13,776
Total Nat'l Forests	31,017	1,159,170	9,029	293,145	18,300,377	94,490

Table #11
Page #5

SUMMARY OF LAKES SURVEYED IN DETAIL BETWEEN 1916-1960 (Inclusive)

Lake Designation	Total Acreage of Water Plus Islands	Detailed Acreage Total Acreage (M.P. & Plat Areas)*	Detailed Acreage Acreage Not Yet Surveyed	Detailed Acreage Acreage Surveyed	Detailed Shoreline Work Number Miles Shoreline	Detailed Shoreline Work Number Miles Meander Lines
a	b	c	d	e	f	g
Beaufort	10	106	-	106	2,980	42
Grand Portage	395	742	143	247	130,362	1,074
Kabetogama Lake	5,775	5,551	1,580	6,527	526,195	1,189
Red Lake	13,519	20,788	1,000	19,788	1,689,013	10,182
Vermilion	72	106	-	106	137,550	424
White Earth	302	1,530	425	1,105	231,596	714
Red River	3,759	4,350	579	3,771	2,176,852	15,657
Lac Court Oreilles	2,386	6,471	-	6,471	1,010,007	7,089
Lac du Flambeau	1,938	6,165	-	6,165	516,778	2,595
Boundary	19,551	21,686	1,916	23,140	9,980,657	29,148
Total	49,287	70,125	5,399	77,956	25,971,290	69,309

* Acres & Sub Acres & Lakes

CONTINUE TABLE #5A

SUMMARY OF TIBES ERADICATION ON INDIAN RESERVATIONS 1916-1940 (Inclusive)

TABLE #5A
SHEET #2

Indian Reservations	De-eradication Work			Totals (Initial and Rework)		
	Acreage Worked	Number Tibes Destroyed	Number 8-Hour Man-days	Acreage Worked	Number Tibes Destroyed	Number 8-Hour Man-days
Bad-Fox	-	-	-	206	2,960	59
Grand Portage	-	-	-	587	739,562	1,074
Nett Lake	17	7,056	22	6,954	524,051	1,611
Red Lake	16,038	1,646,289	7,046	35,920	8,275,330	17,930
Vermilion	206	43,912	210	422	147,142	634
White Earth	-	-	-	1,305	231,596	711
Red River	516	153,414	536	5,299	7,355,998	15,173
Lac Court Oreilles	2,652	129,239	614	11,143	1,139,246	7,903
Lac du Flambeau	5,593	13,611	189	11,738	466,392	5,764
Miscellaneous	8,185	1,205,691	7,207	34,625	11,187,348	36,625
Total	33,195	3,199,745	16,030	112,807	30,269,845	88,496

CHECKOUT TABLE #5A

SUMMARY OF RIBES ERADICATION ON STATE AND PRIVATE LANDS 1918-1940 (Inclusive)

TABLE #5A
SHEET #7

State and Private Lands a	Total Acreage of White Pine b	Control Areas Total Acreage* (N.F. & Prot. Zones) c	Control Areas Acreage Not Yet Worked Initially d	Initial Eradication Work Acreage Worked e	Initial Eradication Work No. Ribes Destroyed f	Initial Eradication Work Timber S-Scor Man-days g
Illinois	1,884	91,644	3,097	13,519	1,527,717	1,780
Indiana	6,086	87,990	22,165	65,765	388,693	3,164
Iowa	3,924	619,668	277,149	342,016	3,019,334	22,274
Michigan	406,181	1,248,198	323,366	924,832	54,938,165	255,094
Minnesota	160,786	448,615	160,533	288,315	40,295,890	34,756
Ohio	15,015	302,084	113,103	189,981	2,683,990	24,200
Wisconsin	310,664	1,281,852	476,738	764,980	57,153,858	215,674
Total	906,215	4,070,101	1,799,191	2,571,610	161,908,117	556,942

* Column c = column d + column e.

CENSUS TABLE #5A

SUMMARY OF KIWA PRODUCTION ON STATE AND PRIVATE LANDS 1918-1940 (Inclusive)

Table #5A
sheet #2

State and Private Lands	Average Worked	No. Kibs Destroyed	No. Man-Day Man-days	Total Average Served	Total No. Kibs Destroyed	Total No. Man-Day Man-days
Illinois	6,232	619,382	2,595	19,056	2,116,705	6,897
Indiana	6,016	52,712	919	74,691	416,385	4,339
Iowa	11,306	171,600	1,116	353,369	3,101,014	23,120
Michigan	128,350	4,306,052	24,506	1,063,172	61,264,217	299,600
Minnesota	34,909	1,665,960	12,338	395,223	42,960,690	105,718
Ohio	28,167	522,683	9,362	100,088	3,006,679	38,730
Wisconsin	105,156	2,553,719	17,254	369,970	59,707,601	305,159
Total	325,219	10,891,333	58,919	2,496,569	172,613,190	765,766

TABLE #12
SHEET #1

CONTROL TABLE #12

STATUS OF GYPSY MOTH CONTROL 1918-1960 (Inclusive)

State	Control Area Including Border Zones (Acres)	Net Control Area Initially Protected (Acres)	Control Areas Necessary Subsequent to Initial Protection (Acres)	Egg Masses Found (Number)	Silver Destroyer (Male & Gall) (Number)	Remarks Control Area Needing Initial Protection (Acres)	Estimated Protection Area per Man-Season * (Acres)
Illinois	21,604	13,610	6,232	4,587	2,146,705	5,975	504
Indiana	77,930	65,765	9,316	4,394	416,485	22,165	29,313
Iowa	249,074	146,455	41,380	23,179	3,193,936	277,445	90,777
Michigan	1,591,145	1,046,156	157,299	101,232	67,715,654	173,081	218,348
Minnesota	664,353	171,741	66,277	140,710	10,621,590	277,197	99,201
Ohio	306,019	154,915	31,157	30,977	5,027,619	114,193	56,595
Wisconsin	1,560,108	172,182	150,345	389,254	41,515,151	169,910	55,751
Total	4,464,233	2,170,824	462,006	713,533	131,637,277	1,230,966	1,104,175

* Maintenance = Any portion of a control area that has through artificial (application of fibre) or natural increase (adding out of fibre), acquired a status wherein the property of gloss exceeds difference [illegible] period, such that no further work (except perhaps scouting) is expected to be needed during the current insect cycle. Such status continues for a varying number of years until, after a major ecological change, a renewed increase and spread of [illegible] necessitate the clean and begin work, [illegible] a control shown.

Plate I

Panoramic view from a hill in Cook County, Northeastern Minnesota. A bit of Big John Lake can be seen beyond East Pike Lake. This region is inaccessible and can be worked only by means of eradication camps. The timber type represented is characteristic of thousands of acres in this portion of the state. It consists chiefly of an aspen-birch over-story with white pine starting to break through the deciduous canopy. Ribes are generally distributed. This type is most economically worked by a crew with spacings of from 10 to 25 feet between men. The rust is rapidly developing in this region. Several local and severe centers of pine infection have been found.

Picture taken by T. G. Money, in 1940.



Plate II

W.P.A. Sites Eradication Camp on Big John Lake, Northeastern Minnesota.

About fifty men, chiefly of the transient lumberjack type, were located in this camp. These middle aged men, used to woods and camp life, have proved well adapted to Sites eradication work.

Picture by S. S. Rooney, in 1939.



Plate III

Members of the MacFarland Lake Ribes Eradication W.P.A. Camp being taken to work.

This region is inaccessible except by the numerous finger like lakes. An outboard motor is attached to the raft. Life preservers are required and are sometimes essential when summer storms accompanied by winds are encountered.

Picture by E. F. Haney, 1940.



Plate IV

Interior of the kitchen-mess hall at Mayfarlane Lake T.V.A. Pikes Creek-Hiwassee Camp. Accommodations for feeding fifty men are provided. The framework, sidings, floors, tables and benches were constructed by T.V.A. workers, from blueprints furnished by the Spokane office of Blister Rust Control.

Picture by E. E. Emmy, 1940.

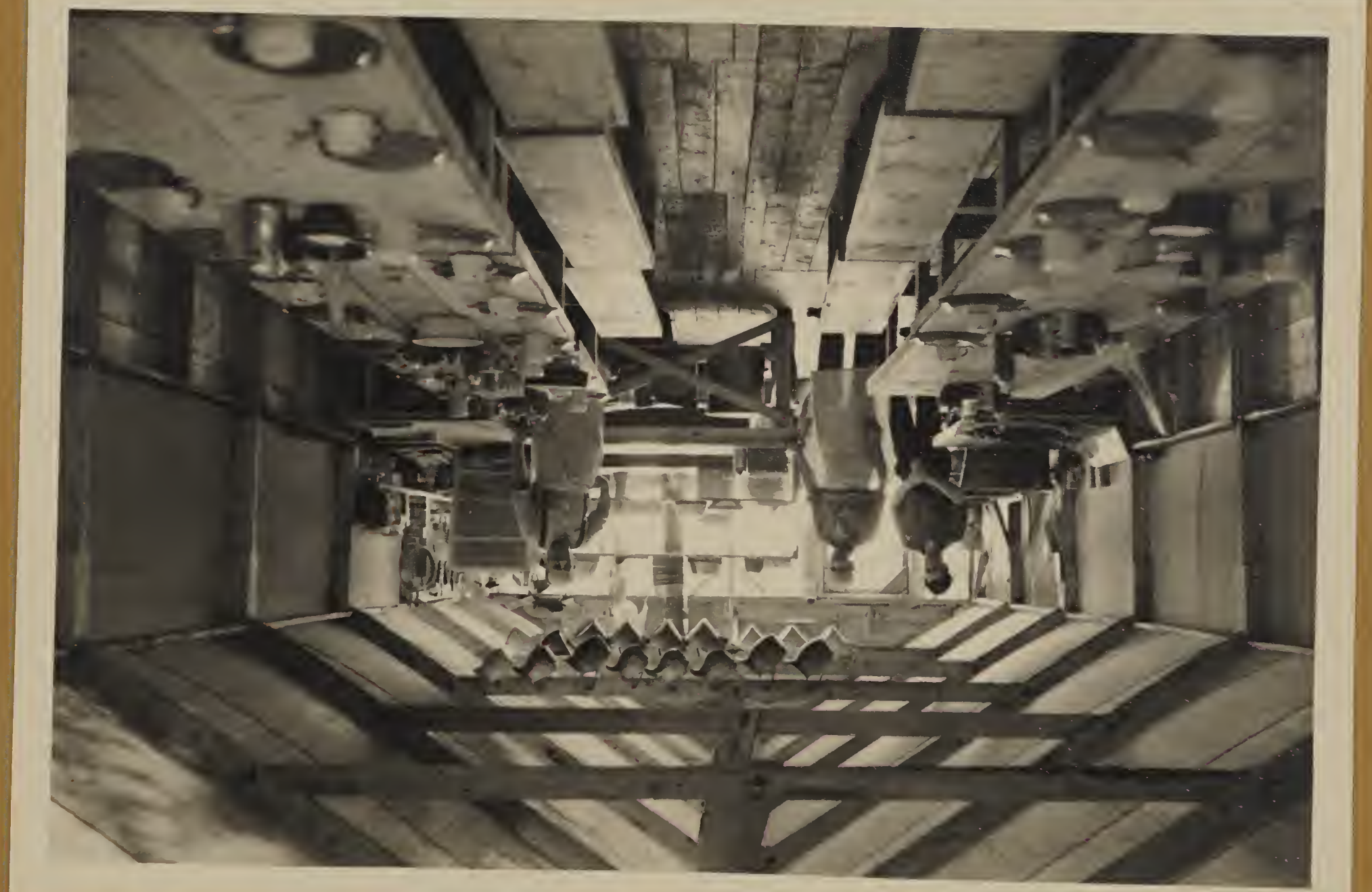


Plate V

Trailer constructed by W.P.A. workers in Alister Rust Control, at North Branch, Minnesota, during the winter of 1940-1941. It contains two folding bunks, book rack, heating stove, folding table, sink, refrigerator, dish cabinets, broom closet. It is wired for electricity either from a storage battery or electric outlet.

This type of trailer is of great value as a field headquarters for rigid eradication in sparsely settled districts and for use of a small crew in either dig-up work or pre-eradication survey.

Picture by E. A. Brown, 1941.



Plate VI

A white pine shelterbelt in Northeastern Iowa.

White pine is extensively used as a shelterbelt tree in Iowa. There are approximately 9,500 white pine shelterbelts, chiefly in the northeastern quarter of the state, listed for protection against blister rust. For the most part, protection consists of the removal of cultivated ribes and wild ribes within 900 feet of the white pines. Usually most of the wild ribes are found growing within the shelterbelt itself. Only a small amount of work is required around each shelterbelt.

Picture by E. E. Hubert, 1935.



PLATE VII

Garfield Pine Infection Study Plot, Portage County, Wisconsin.

White painted "Markers" labeled: "Blister Rust Killed the White Pine Tree that Grew Here", are placed where white pines have been killed by the rust and have disappeared. Without such a marker the extent of damage is not realized, because small trees killed by the rust disappear in a few years in the leaf litter.

Picture by E. E. Gamey.



Plates VIII to XII represent successive and progressive stages in the development of a blister rust canker.

Plates X to XII are pictures taken of the same branch canker three successive years. Plate X, taken in 1937, shows "First Aecia". Plate XI, taken in 1938, represents "Aecia more than once". Plate XII, taken in 1939, represents "Dead Canker".

All pictures taken by E. E. Honey.

PLATE VIII.

Blister Rust Canker in "Incipient Stage.

An "Incipient" canker is one prior to the formation of either pycnia or aecia. It is characterised by a slight swelling of the fascicle at the base of the needle through which infection entered, and a slight yellowish discoloration. The size may vary from that of a little fingernail to an inch or more in length or diameter. The incipient stage usually appears from 15 months to two years after needle infection.

In the picture, two "Incipients" are visible, one on branch to the left, and one on main branch above the whorl.



PLATE IX

Blister rust cankers showing "Pycnial Scars".

Pycnial drops containing pycniospores appear usually in the summer following the "Incipient" stage, or from one and one-half to two and one-half years after needle infection. These pycnial drops first appear as sticky, yellowish, oily smelling globules attractive to insects, throughout the summer, on the same surface of the canker which normally produces aecia the following spring. Later in the year these pycnial drops dry down. The pycnial producing area forms the typical brown to dark pycnial scars as shown in the picture.



PLATE X

Blister rust canker showing first aecia.

This stage develops from March 15 to May 15 on that portion of the canker which produced pycnia the previous summer. Aecia spores are yellowish orange in color. They burst through the bark, first covered by a thin white yellowish membraneous tissue. Later this tissue bursts, liberating the aeciospores which are dispersed by the wind. Aecia are normally produced three to five years after needle infection.



PLATE XI

The same canker shown in Plate X, a year later.

This picture illustrates a canker producing scale two years in succession. The portion producing scale the first year is shown in the center of the canker, as deeply cracked bark and few dactil scars. The portion producing scale the second year is shown above and below the center. Scale are produced twice normally from four to six years after needle infection.



PLATE III.

The same canker shown in Plate I two years later, and in Plate II one year later.

This picture illustrates a dead canker after the production of seals. Depending on size of stem, vitality of tree, and other factors, the time of killing may vary from two years to fifteen or more. Often death beyond the canker, and death of canker itself, occurs before the production of seals. Usually, in the case of branch cankers, death beyond the canker occurs relatively early, while the canker sometimes to grow thru the living periderm to encircle the trunk. The blister rust fungus is an obligate parasite.

